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THE DIET OF PRISONERS OF WAR IN GERMANY

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PHILADELPHIA

American soldiers are in France, others are going, and many more will have to go, unless some unforeseen turn in military, industrial, economic or political affairs brings the war to an early conclusion. Barring extreme crop failure, starvation will not intervene in Germany; of revolution in war-time no one has any hope who knows the German mind from first hand observation. Since we have soldiers on the western front, American boys will inevitably be taken prisoners and interned in prison camps. For us the facts of the management of the German prison-of-war camps will, therefore, hold a personal and urgent meaning. We have, indeed, over one hundred Americans interned in Germany, being fed by our Red Cross. There has been much written of the prison-of-war camps in Germany. Much has been distorted and exaggerated; much has also been concealed. In the broad sense, one fundamental fact holds for the prison of war as well as for the prison of peace; prison life depends more on the character of the management than on prison laws. Nobility of management will make prison life good in a state with the worst of laws relating to the penal institutions; brutality will make a hell of prison life under the best of laws. Of this we have illustrations in this country; a prison hell and a prison haven may exist within the same city. But, the prisoner-of-war problem is something more than this. The prisoner of war is not confined for reason of personal penalization, nor is he the object of reformation. The prisoner of war is a military fact; he represents a reduction in the military forces of his country. He is an industrial fact, since he is potentially and actually a laborer in the service of the enemy. He is a political fact, and can be evaluated in terms of diplomatic units. He is lastly, and unfortunately, a weapon of offense in the hands of his captives, since he may be made the object of reprisal for the attainment of military aims. The subsistence of the prisoner of war is a part of his situation, and has relations to each of the rôles that his capture imposes on him.

In a historical review of the provisioning of the prisoner of war in Germany, three periods must be defined: the period of unorganization, the period of organization and the period of stringency. Throughout, one must bear in mind the five accepted principles of management of prisoners of war in Germany:

(*a*) The possession of prisoners by Germany in greater numbers than those of her subjects in the hands of her enemies gave her a situation of vantage.

(*b*) The fact of a food blockade relieved her of legal responsibility for the subsistence of the prisoners of war.

(*c*) The fact that, through the blockade, Germany could not secure manufactured commodities from the neutral world gave her extraordinary rights over the labor of the prisoners of war.

(*d*) The rules of discipline and control applying to her soldiers under her military law applied to prisoners of war under military rule.

(*e*) Distinctions between prisoners of war of different nationalities were not recognized; "the Allies who fight together must as prisoners of war sleep together, eat together and work together."

The period of unorganization lasted until the close of the autumn campaign of 1914. On the west front, management of prison-of-war camps was regarded by the Germans as well organized in 1915. On the east front, however, the organization broke down under the weight of the huge number of Slavs captured in the late summer of 1915. According to the Germans, the organization was everywhere maintained during the year of 1916. During the present summer the number of prisoners taken by the Germans has been so low that the problem of caring for them cannot have been onerous.

The Germans were taken by surprise at the number of prisoners taken during the fall of 1914. As one officer remarked to the writer, with what he doubtless regarded as fine sarcasm, they were "surprised that the Allies had so many troops to surrender and that they surrendered so readily." Confident that the Imperial Army would march directly to Paris, no particular provision for the care of prisoners of war was contained in the campaign plans of the General Staff. For each new batch of prisoners, it was almost literally true that they had no beds on which to sleep, no roofs over their heads, and no food to eat. Usually this state of unorganization lasted only a few days; but sometimes the quarters, living accommodations and food were almost intolerable for several months. Some prisoners have stated to the writer that they regarded the neglect at that time as purely unintentional due to unorganization; others have the conviction, born of experiences that to them permit of but one interpretation, that malice more than unorganization contributed to the wretchedness of their situation. The writer regrets to feel compelled, from personal observations, to conclude that in some camps and under some commandants, malice was a factor in the regimen. When one considers the number of camps (150 parent camps and thousands of working camps) it is obvious that the chances of getting a brute for a commandant or overseer were not few. In theory, the prisoner of

war was supposed to receive the ration of the army of his country, and this was, with his pay, charged against his country, to be paid at the close of the war.

The writer had no personal experience with the prison-of-war camps in Germany prior to March, 1916. All statements of conditions prior to that date rests on the experiences and records of the American Embassy in Berlin, on official German publications, and on statements of German officials to the writer. The stringency in foodstuffs became acute after the arrival of the writer in Berlin; and the conditions of subsistence may be assumed to be about the same now as during the summer and autumn of 1916.

The story of later conditions is of more importance to us than a recital of earlier conditions, since we are most interested in what our fellow men may be expected to encounter and endure in the event of being captured on the western front. The fact that Germany has taken no official notice of the declaration of war by the United States, and has herself made no declaration of war against us, will not prevent the captured soldier from "getting his" if he should fall into the hands of a rancorous Prussian sergeant. The Prussian sergeant is a creature sui generis. Since the Franco-Prussian War, German newspapers have regularly contained accounts of the brutalities of the sergeants to the one-year recruits drilling under them. The one-year recruit was the man of university education. The drill sergeant sprang from the masses. During the single year of military service of the educated German, the uneducated sergeant had the only opportunity of his life to inflict personal indignities on the man of social station above him. German military regulations contained specific provisions designed to control the profanity and indecency of language employed by the sergeant against the recruits. German officers have stated to the writer that the strict military rules applying to the newly captured prisoners were not infrequently violated by the sergeant, in the same spirit in which he used to abuse recruits under his control. Good commandants often had difficulty in controlling the sergeants who were their subordinates; the combination of a harsh commandant and a malicious sergeant spelled suffering for the unfortunate man entrusted to their military care.

The subsistence of the prisoners of war during the first half of the first year was provided on the contract system. When one or five or ten thousand men were taken prisoners, they were sent back of the lines. Later they were sent inward, in accordance with a system of distribution that no German official was ever able, or willing, to make clear to one of us. The heads of the army corps had certain rights; the generals of the battling divisions to whom the captive had fallen had certain prerogatives; the needs of the particular sections of the fatherland for labor were taken into consideration, and the capacities of certain cities or sections to care for large bodies of prisoners were factors of moment. But when all was said and done, some of the prison-of-war camps seemed, like Topsy, to have "just growed up." Certainly, some of the camps were established in places that the present commandants cannot imagine would ever have been regarded as proper locations for a camp. When after a battle, the hundreds or thousands of prisoners arrived at the denominated place, possibly after only a few hours' notice by telegraph to the local authorities, it was up to the local authorities to provide shelter, beds and subsistence. The contract system was the most easy and feasible system, at first sight. Caterers took over the entire feeding of prisoners, at prices ranging from 15 to 16 cents per day. There were at first no regulations of diet officially promulgated; the commandants were supposed to see to it that a proper diet was provided. It was during these first months that the greatest complaints over subsistence arose. It was frankly admitted to the writer by German authorities that in many instances the caterers violated grossly the trust imposed in them by the government, made easy by the lack of inspection service. Indeed, in published protocols of later meetings of the war subsistence bureau, dissatisfaction of the authorities and scientists with the subsistence furnished by the caterers was freely expressed. But, openly, the Germans usually denied that more than nominal abuses existed; and when driven to the wall, would fall back on the "you're another" by describing the British as inventors of concentration camps during the Boer War. The caterers not only confessedly neglected the needs of the prisoners of war, but in some instances they also defrauded the government. The penalty, therefore, sometimes exacted, was to compel the contractor to continue his contract after the period had expired, until restitution was done. As prices were continually rising, to compel a caterer to continue at the old price meant loss to him and profit to the goverment. In many instances this was done until, in the judgment of the authorities, the improper profits had been leeched away. But the prisoner of war had no restitution. The writer has no personal information of the diet of the prisoners of war in Germany during the first year of the war. The records of the American Embassy in Berlin contained no investigations by trained observers. The German government did not maintain a competent department of inspections, and confessedly did not know for many camps exactly what was going on. But from statements made to the writer by men whose judgments, as revealed to the writer in camps with which the writer was acquainted, were fair and just, the food of the prisoner of war during the first year of the war was often badly prepared, entirely disregarded the tastes of the men, and was sometimes deficient in amount.

The first governmental regimen was issued in the spring of 1915, and was, in a certain sense, recognized by the Germans as an admission that the local camp authorities and the caterers had been more or less derelict. The first ration provided that the prisoners of war must receive daily 85 gm. (3 ounces) of protein, 40 gm. ($1\frac{4}{10}$ ounces) of fat, and 475 gm. (17 ounces) of carbohydrate, with a total value of 2,700 calories. From the standpoint of quantities, this was an entirely adequate diet for sedentary men. When the prisoners worked, they received 10 per cent. more food. The cost was limited to 16 cents, thus compelling the materials to be chosen from among the few foodstuffs that would furnish the denominated units within the set price. Early in the summer of 1915, the housing and subsistence in the prison-of-war camps were organized, and on the customary basis of German minuteness. Under the commandant of the camp operated a committee composed of subsistence officer, surgeon and paymaster. The service of the surgeon was limited to an inspection of the raw materials and stores, and to a daily report on the taste of the mid-day soup. The subsistence officer had the running of the store rooms and kitchens. The paymaster made arrangements for purchase, though this was often purely mechanical, as

the central war department made the chief purchases for the prison-of-war camps. The minister of war appointed a diet expert to exercise supervision over the ration. This was fixed each month for all of the camps, leeway being supposedly allowed to enable the subsistence committees in different camps to take advantage of local markets. If the camp commandant was an efficient man, this arrangement resulted in variety in the diet. (The writer once saw 3 tons of asparagus being cooked for prisoners-of-war.) More often the opportunity was neglected. In June, 1915, a course of instruction for subsistence officers was held in Berlin, under the direct authority of the minister of war. The course was attended by about one hundred officers detailed from the several camps; for a week they attended lectures and demonstrations on the physiology of the diet, the preparation of food and the technic of mass rationing. Germany had possessed considerable experience in civic kitchens; and on this experience the feeding of the prisoner of war was largely founded.

As the expert of the Prison Nutrition Office there was selected, not one of Germany's many recognized workers in nutrition, as might have been expected, since the number of prisoners of war was large and the verdict of history on the care of these men a matter of much importance to Germany. Instead, they selected a man whose experience in matters of nutrition had been largely confined to animal husbandry. The writer learned in his first interview with Professor Backhaus that he was not conversant with the literature of human physiology. He was well versed in animal nutrition from the older standpoint of energy equivalents. He was not acquainted with modern investigations on growth or with the current viewpoint of metabolism. He was practically unacquainted with the considerable work that had been done on adaptation of the diet, and was devoid of any conception of the psychology of rationing. He attempted to ration prisoners of war exactly as one would feed live stock. The knowledge of the nutrition of the human body includes that of the animal body, but it also includes something more; and this something more the director of subsistence of prison-of-war camps did not possess. In rationing human beings, one must not violate the laws derived from the studies of nutrition of animals; but merely to apply the feeding rules of the stock farm is not sufficient in the feeding of men.

In the published report of addresses delivered at the meeting of subsistence officers of the camps, frequent references were made to abuses by caterers. Camp authorities were also urged to permit the prisoners of war to prepare food in accordance with their own tastes as much as possible, a recommendation rarely followed; had it been adopted, much of the dissatisfaction of the prisoners with their rations would have been avoided.

From June, 1915, on, the head office issued over the signature of Professor Backhaus a menu for each month, defining in grams to the decimal place the amounts of each foodstuff that were to be served each day. Certain leeway for adaptation and substitution was permitted, but these had to show on the camp diet sheets that were sent to the central office for record and approval. One by one the contracts with caterers expired or were discontinued, and the camp authorities took over the management of subsistence.

The writer reached Germany in March, 1916, and departed in October. During this period, Germany passed from closeness to stringency in food supplies, and the writer was thus in a position to study the changes in the ration of the prisoners of war that accompanied this transition. While the student of the subject is able to predict an oncoming stringency of food supplies at a considerable distance of time, it is usually not possible to convince those in public authority that such a stringency is imminent, and this was the case in Germany. In March, 1916, the students of the subject realized that a critical situation was impending; but the authorities in charge of food control could see nothing of this until the crisis developed in the markets in May. This was reflected in the prison-of-war menu for June, which displayed a reduction of 40 per cent. from that of the month before.

Even the Germans make mistakes, and even the Germans admit they make mistakes. A famous pope has been credited with the remark that he cared not who conducted the arguments so long as he framed the definitions; and the Germans are willing to make such mistakes as are provided in their philosophy. In the Hegelian system, provision is made for logical and illogical mistakes. The German finds great relief in the reflection that his mistakes were logical. The attitude of the world toward this frame of mind is quite that of the family toward the surgeon who regarded the operation as a technical success though the patient died. One of the most striking differences between Englishmen and Germans lies in this: Englishmen blunder into mistakes, Germans reason themselves into mistakes.

The two mistakes that were responsible for most of the difficulties in the prison-of-war diet were disregard of the psychology of the diet and the selection of potato instead of bread as the keystone of the ration. The last mistake the German authorities made against their own people, and it has been the cause of great misery to them. The crop of 1915 was short on grain, long on potatoes. Two-hundred gm. (7 1/10 ounces) of flour per diem was set as the cereal ration of the German people. The rest went to stock feed. Had the ration been set at 300 gm. (10 7/10 ounces) per day, where it could have been set, this could have been maintained, as was repeatedly demonstrated by German scientists, involving only the withdrawal of so much grain from stock feed. In June, 1915, the bread ration of the prisoner of war was set at 300 gm. per day. The flour ration issued to the kitchens to be used in the preparation of the food and in the baking of extra bread and cakes was limited to 500 gm. (18 ounces) per week. This amounted to a total flour and cereal ration of about 270 gm. (9 1/2 ounces) per day. There was a stated rice ration of 200 gm. (7 1/10 ounces) per week, but this was largely on paper, as rice soon became scarce.

As against this was the normal British consumption of 310 gm. (11 ounces), the French and Russian of 400 gm. (14 2/10 ounces) per day. Entirely apart from the kind and quality of the bread, the prisoners naturally felt the amount to be entirely insufficient. The digestive tract becomes accustomed to a certain bulk of the staple foods. When other articles in the diet do not suit, the few staples become the mainstay. Many of the dishes of German cooking, the French and British could not eat. When, therefore, the bread was low in amount, the deprivation was doubly felt. The same fact held for the entire German people. It did little good to substitute potato, since this disarranged the entire bulk habits of the digestive tract.

As a final misfortune, the supply of potatoes gave out early in the spring of 1916, and the prisoners and population together had to go on short rations of potato as well as of bread. In the early months, bread was on sale in the canteens; later this was interdicted.

The bread of the prison camps was the center of storms that concerned more than quantity, involving also kind and quality. Of the kind of bread served, the amount was later more than enough for Frenchmen, Belgians and British. The bread was a coarse mixture of rye (70 per cent.) and wheat (30 per cent.), dark in color, sour in taste and inclined to be soggy and gummy inside. The American bread faddists who are seeking for ever and ever more laxative breads ought to import, after the war, some of the bread makers of the German prison camps; they certainly have perfected the making of bread that would leave an indigestible residue. The bread was sour in reaction, as in the sour fermentation method of central and eastern Europe. This bread was not necessarily indigestible to much greater extent than our graham bread; indeed, the acid fermentation probably had some action on the starch and cellulose. But it was revolting in appearance and in taste. It is a matter of taste. The German prisoners of war in England used to complain of the constant use of white bread; as late as August, 1916, the writer saw in the prison camps in England pieces of sour black German bread sent over from Germany to the men as delicacies, in response to their appeals for a little of the home bread. The smell of the bread is like the smell of the sod, ineffable. The Russians made no complaint against the bread except that the ration was low. And, when an irate Tommy would take a piece of bread and throw it as far as he could, a Russian would eagerly pick it up and eat it. The British boys did not believe the bread had to be made that way; they believe that the Germans were "rubbing it into them," trying to make the German bread as a penal procedure. When in the fall of 1915 potato was added to the bread, matters only became worse. When the writer visited the camps in the spring of 1916, the bread contained as much as 30 per cent. of potato. In some of the camps, relatively good bread was baked; in many of the camps nothing approaching good bread could be produced. In Parchim, where the commandant was ceaselessly busy doing his best to improve conditions for the men in his camp, the making of bread had been evolved to such an art that the 30 per cent. of potato was entirely concealed, and the bread tasted like a common whole-grain bread of coarse texture. In the final analysis, it was a matter of endeavor; where conscientious effort was expended on the problem, results were secured; where the complaints against the bread were lightly disregarded, conditions remained bad. At the best it was a low grade bread, difficult of digestion.

In June, 1915, a limitation of supplies applicable to all camps was issued by the Department of War. Each prisoner of war was to receive not in excess of 300 gm. (11 ounces) of bread, from 200 to 500 gm. (7 to 17 ounces) of fresh vegetables and 1,000 gm. (36 ounces) of potatoes on the average daily; and weekly 200 gm. (7 1/10 ounces) of sugar, 500 gm. (18 ounces) of flour, 100 gm. (3 1/2 ounces) of fat (usually soya oil that lasted until late in the fall of 1915) 200 gm. (7 1/10 ounces) of field beans, 300 gm. (10 7/10 ounces) soya beans, 200 gm. (7 1/10 ounces) of rice, 440 gm. (15 ounces) of fresh meat, 100 gm. (3 1/2 ounces) of sausage made of blood and internal organs, 150 gm. (5 ounces) of dried sea fish and 200 gm. (7 1/10 ounces) of herring. No butter was provided, and margarin was soon dropped. Since it was the rule to serve the special articles of diet at noon in the form of a thick soup, this left little else than bread and coffee or tea for breakfast and supper. Without butter or conserves, this made a poor and unsatisfying breakfast and supper. ("A breakfast consisting of thin coffee without milk or sugar is really not a meal at all, especially if bread is lacking"—a quotation from an official discussion of the prison-camp fare.) The suppers did often contain potato salad or boiled potatoes with herring or sausage, at the beginning: later the suppers approached more and more the compositions of the breakfast. During the past winter the writer has seen prison bills of fare in this country that were almost identical with the German menu; dry bread with coffee or tea for breakfast and supper, soup for dinner six days in the week. The quality of the foodstuffs was, in the experience of the writer, usually not worse than poor. Naturally the grades were not of the best, but decomposed foodstuffs were not often encountered. The coffee was very poor; at first it was one third coffee; two thirds substitutes; later it was all substitute. The cocoa was a powder of husks that cost 5 cents per pound; milk was rarely seen. The sugar carried the tax, as it was expected that the cost of the ration would be repaid at the end of the war. The fresh fish, usually served once a week, was almost always excellent, and this was the dish most looked forward to by the prisoners. The paucity of fat was one of the most grave defects of the diet. Foods low in fats never seem properly cooked. They digest rapidly, and thus hunger appears too soon after a meal, and the sense of having been well fed is destroyed.

The amount of foodstuffs in the diet of the camps was maintained at the set level until June, 1916. In April of that year the ration was normal, containing: protein, 89 gm. (3 1/5 ounces); fat, 30 gm. (1 1/10 ounces), and carbohydrate, 510 gm. (18 ounces), with a total of 2,740 calories for a nonworking ration. In June the ration for nonworking prisoners fell suddenly to 1,720 calories: protein, 57 gm. (2 ounces); fat, 21 gm. (3/4 ounce), and carbohydrate, 310 gm. (11 ounces). This was evidently the result of the mandate of the food controller, von Batocki, who has just been relegated to private life by the new chancellor. The writer has not seen the diet sheets for all of the months since June, 1916; but from those that he has seen, the intake has never since that time risen from 2,000 calories; and the best available information runs to the effect that the ration since our entrance into the war has not exceeded that amount. This quantity of food was, of course, too low to maintain nutrition. It meant loss of weight, subnutrition, lowering of resistance to infections and other diseases—in short, starvation for some of the men. Many men, on a diet of 1,800 calories, will waste greatly and reach a low level in weight at which they can live on the low intake. The defenders of Ladysmith went for three months on 1,500 calories per day. But the intake of the prison-of-war camps in Germany since June, 1916, must have meant subnutrition for all of the nonworking men who had no other food supply, and death directly and indirectly to some.

It was the German principle of ration of war prisoners, as officially stated to the writer, that Germany under food blockade would give to the nonworking

prisoners that amount of food only that was available for the poorest nonworking citizens of the empire. This was also practically the Russian rule; the German and Austrian prisoners were given the ration available for the poorest refugees who had no employment. Any other rule would have implied that the Germans were to keep alive the prisoner of war at the expense of German citizens. It is the conviction of the writer that in the large industrial cities of Germany last summer many individuals did not receive more food than was provided in the prisoner-of-war ration, or any better ration.

The equipment of the camp kitchens consisted usually of a number of large soup kettles, a small stove for roasting, and a hot water boiler. The thick soup was usually served to the men directly, standing in line with bowls in their hands. They usually returned to their barracks to eat the meal, but were permitted to do so in the open. In some camps the soup was served to each barracks in large buckets. There were dining tables in few camps; the men had usually to sit on beds or boxes, or stand while eating. The men were not permitted to have knives or forks, spoons alone being permitted, since it was feared that weapons for escape or attack could be fashioned from knives and forks.

With the lack of knife and fork appeared another characteristic of the noon-day meal that was bitterly resented. The meat allowance was very low, for the past year only a third of a pound per week. But this had to be cooked in the soup, and was lost in the mass. Men thus fed acquire a positive homesickness for the sight, taste and touch of meat; they long for the act of mastication of meat. The animals were usually killed in the camps. Everything was used as food but the horns, hair, hide, hoofs and contents of the alimentary tract. The internal organs were worked up with blood into a blood sausage, whose appearance was confessedly revolting. Beef, pork and mutton were all served, according to circumstances. The bones were crushed, the mass heated, and the fat collected by centrifugation. Frozen rabbits from Australia were served as late as the fall of 1915.

All this did not involve the prisoners of the United Kingdom at all, those of France to no marked extent; but it did concern the Russians and the Serbs, who received no foodstuffs from the outside world. As early as the fall and winter of 1914-1915 the British received practically all their foodstuffs from home, and the French to an extent of over one half of their needs. During the six months the writer was in personal contact with the situation in Germany, the Tommies subsisted almost entirely on the supplies sent from home. The international agreements dealing with war provide that prisoners of war may receive packages of tokens, delicacies, clothes, etc., from home. This comfort package, called by the Germans the "love parcel," was expanded by the British into a full ration package. When fresh fish was served or potatoes boiled in their skins, the Tommies would take their share. Otherwise, one or two things would happen. In good camps, the food allotted to the Tommies would be delivered to their barracks by their messengers, and then turned over to the Russians. In bad camps, this was not permitted, and the food was not prepared for the British. The French and Belgians took more or less of the food according to their taste, to fill out the inequalities and insufficiencies of their food parcels. Some of the German dishes were not so revolting to the Belgians, and as a rule they were more adaptable in the direction of German cooking.

In June, 1916, the question of placing a check on the food parcels was brought up by the minister of war. The camp authorities were flooded with letters of protest from Germans, protesting that Germany permitted the prisoner of war to receive from the outside world food in variety, kind and quantity in excess of that available to the poor Germans under blockade. A movement was inaugurated to compel the government to act in the direction of repression. It was supported by the military parties, opposed by the chancellor and the Foreign Office. At that time the Germans were much concerned over the treatment of German prisoners of war in Russia, and supplies of food were being sent to them in Russia under the auspices of the American Y. M. C. A., whose leading representative in prison-of-war service, A. C. Harte, had accomplished an enormous task of alleviation in Russia and Germany. The fear that any repression of the food parcels to Germany would lead to similar repression on food parcels into Russia undoubtedly tended to deter harsh action on the part of the German military authorities. But probably the most deterring factor in the final decision to impose no conditions on the shipment of food parcels into Germany was the vigorous opposition of Ambassador Gerard. The position of the American Ambassador on all matters involving the rights of the prisoners of war committed to his charge was unequivocal and admitted of no compromise. Supported by Bethman-Hollweg and von Jagow, the demands of Gerard for uninterrupted continuance of food parcels of unlimited contents into Germany was finally agreed to by military authorities. This raised a storm of protest, because the Germans felt that these prisoners should be made to feel the pinch of the blockade. And, of course, through the sentries the Germans knew exactly what foodstuffs were being received by the British prisoners. In particular, the possession of butter by the British prisoners seems always to arouse the Germans' wrath, since butter was the article most scarce and most keenly missed. Ambassador Gerard obtained one further concession, in practice if not in principle. In Ruhleben were a considerable number of civilian Englishmen who had no connections in England engaged in sending food parcels. When the low ration of June, 1916, was first introduced, these men were strictly "up against it." Gerard secured permission for food to be shipped in for them in bulk, not as individual parcels, but as lot shipments of foodstuffs to the American Ambassador, to be distributed to the needy men.

Up to the fall of 1916, the food parcels to Tommies were sent out from the mother country in an unorganized way, by families, associations, clubs, churches and societies. In the autumn of that year, the victualization of these men was organized in London and centralized in one committee. A ration was selected that would conserve well, pass censorship easily, stand transportation, keep well in the camp, and wear with the tastes of the men. The supplies included soap and tobacco, two scarce articles in Germany. Bread was baked in Berne, and supplied by a committee of women organized under Lady Grant-Duff, wife of the then minister to Switzerland, and supplied to every Tommy in Germany. So far as the writer could learn from the prisoners themselves, these food parcels were never appropriated by the Germans. Delivery was often

delayed, especially in working-camps. The packages had to pass the censor, outgoing as well as incoming, and this often consumed time. The necessity of censorship can be understood from the statement that on a number of occasions a suit of clothes was removed from a hollowed-out loaf of bread. The writer has recently learned from a nurse who has only lately talked with the Tommies exchanged to Switzerland that the delivery of food parcels continues without loss or difficulties. The shipment of these food supplies packed as individual parcels imposed a serious burden on the German transportation system. Sometimes 50,000 packages a month would be delivered to a camp, and a great many express trains were kept in operation by the parcel shipments to the camps. This led to difficulties between the transportation authorities and the censor's office, since the shipments could have been greatly expedited if the rules of censorship had been less strict. All in all, the food parcels were as much a source of discomfiture to the Germans as they were of sustainment to the Tommies.

The food parcels were also the occasion of internal difficulties in the camps. In order to use their supplies, it was necessary for the prisoners to have facilities for cooking. Coffee and tea required hot water, and many of the tinned foods were meant to be warmed up. In good camps, the men were given free facilities to so serve themselves. They could purchase coal, and they were allowed stoves so long as they were careful to guard against fires. In the bad camps, these privileges were refused, and the most petty obstacles put in the way of the use of these food supplies. In the good camps, men were allowed to share their food with other prisoners. In some of the bad camps, the giving of food to prisoners of another nationality was prohibited. In one of the camps, when on the occasion of an inspection by a member of the American Embassy staff, call was made for complaints, a little Irishman stepped out of line and in a shrill voice demanded; "I want to know why in hill I can't give me extry grub to the sick Frinchmen?" It was in such ways that the camp of good management was distinguished from the camp of bad management. When the men of the American Embassy spoke of a good or a bad camp, they referred not to the material equipment, but to the point of view of the commandant. When the Tommies emptied the tins of food they threw the empty cans into a heap. The Russians, like the bears back of the hotels in Yellowstone Park, would hunt over the cans and lick them clean. In one camp this was forbidden! The tin in the cans became a matter of valuable recovery of the metal to the Germans, so that foods in tin may not now be shipped to prisoners in Germany, being forbidden by explicit regulation.

The writer is advised that the shipments of food to the French prisoners in Germany has lately fallen off, an expression of food stringency in France. This is a matter of very great importance and urgency, since with the extreme prevalence of tuberculosis among the French prisoners, a lowering in the intake of food would have a terrible result. This matter of victualization of the French prisoners is now in the hands of the American Red Cross.

All the camps originally contained canteens, where foodstuffs, tobacco and articles of personal need could be purchased. But since June, 1916, no foods are on sale in the camp canteens. Beer and wine were on sale in most of the canteens. The amounts that could be purchased were very limited; a pint of beer or a half pint of wine two or three times weekly, under strict control. The men prized this privilege very highly, not being teetotalers and not disposed to argue as to the effect of such libation on the statistical expectation of life. The camp authorities were a unit in commending the system. No such system obtained in England, despite the petitions of the prisoners and the favor of the majority of the commandants. Assured that sentiments of prohibition were not at the bottom of the refusal, the writer was forced to regard this as a petty form of reprisal, the only sign of this iniquity he was able to find in any of the British camps. The faults in the British camps, where such existed, were due to lack of organization. The faults in the German camps, where such existed, were usually those of persecution, usually petty, sometimes grave and brutal to a serious degree.

The diets in the working camps were usually much more satisfactory than in the parent camps. Employers knew that if the men were well fed they did better work, though in some instances coming under the observation of the writer, employers tried to secure through terrorism by sentries work that was not warranted by the diet. Naturally, a brutal employer, when in possession of prisoners as laborers, has opportunities in the direction of brutality and coercion not possible in times of peace. And, of course, Germany contains such employers just as other nationalities have them. The control of this abuse by employers lay in official inspection; but the inspection system of the working prison camps was both inefficient and inadequate. The writer observed a number of instances of abuse in the direction of underfeeding in working camps, and the matter was all the less excusable as the men were working largely on rations from home. Generosity in the matter of diet could hardly be expected when the standards of work by which the men were judged were such that in one instance the official time-card of a group of men engaged in cultivation of virgin moorland credited the men with work equaling the value for the day 2½ cents. Ten cents per day was a common rate of payment. The men billeted on farms fared the best. Here the lack of long standing racial hatred between German and English came to the good of the Tommy. After being billeted on a farm for a few months, the Tommies and the families of the peasants apparently forgot that their countries were at war, so far as their personal relations were concerned. The Tommies developed a sort of pigeon German and lived in amity with their employers. Very often the prisoners would share with the simple peasants their delicacies from England in exchange for the eggs and butter that the food controller was vainly trying to extract from the country districts for the benefit of the industrial cities. The French and Belgian prisoners did not fare so well. The French never dropped the hauteur and distance of an ancient racial antipathy. The Belgian never lost the immediate sense of resentment at the sufferings of his innocent people. The Russians had few difficulties, because the peasants were accustomed to Russian agricultural labor in prewar days. Work is the salvation of the prisoner of war. If all the prisoners could be employed in agricultural labor, that would be the best solution of the prison-camp problem.

The second mistake of the German management, as was stated earlier, lay in disregard of the psychology of the diet. In the first promulgation on the treatment

of the prisoners of war, issued by the War Department, Sept. 11, 1914, the camp authorities were warned not to disregard the differences in habit and customs that existed between the prisoners of different nationalities, and to pay particular attention to the diet of prisoners. This, however, was not done. Why not? The most common answer given by the camp commandants ran to the effect that they did not have adequate and competent personnel, as the military arm seized all. There was, of course, truth in this extenuation, certainly for the first year. But later the causes of the disregard of the psychology of the diet were of a different nature. One was the feeling of bitterness that developed as the war was not brought to a successful conclusion. "They are allies, they fight together; therefore, they live together, sleep together, eat together; no discrimination; the same for everybody." Such in effect was the answer that the writer has heard time and time again. This was the spirit that promoted the commandants in Wittenberg and Gardelegen to disregard the advice of their surgeons, on the first appearance of typhus, that the Russians must be separated from the British, Belgians and French, with the result that epidemics got under way that should have been checked at the outset. This was the spirit that in many cases prompted the refusal to allow the different nationalities to be barracked separately, desirable on account of the different habits of the Russians and British—for example, in the matter of open windows in the sleeping quarters, highly prized by the British, feared as dangerous by the Russians. This was the spirit that ordered the cooks to cook all the food up in one way, the easiest way, perchance: "Let them be allies in the eating of German prison-camp fare." In such an arrangement the one to come out ahead was the Russian. The problem of feeding a Russian peasant is a problem in solid geometry; his sole concern is that of the third dimension. The writer has heard the most unbelievable stories of the capacity of the Russian alimentary tract, such as the eating at one sitting of 50 quarts of purée of peas by seven prisoners. At home the Russians lived largely on bread and vegetable soup, with little meat or dairy products. In the camps with a low bread ration, low in quantity but to them satisfactory in kind, the Russian was entirely satisfied with camp soup if the amount was sufficient. The poor Belgian was against the diet on constitutional grounds; after what he had been through in his native land, any dish that the German concocted could be nothing else than bad. The average Tommy had the point of view in diet that a luncheon from the joint in Simpson's, a piece of rare meat, a bit of boiled cabbage and a potato, each unseasoned, represented the heaven of gastronomics. The Frenchman was accustomed to the highly concocted and deftly seasoned sautés and made-up dishes that the simplest French woman can do so well, and for the rest was dependent for half his intake on white bread. The line of least resistance was to have separated the nationalities as much as possible, have them install their own cooks, and turned over to them the raw materials, as far as possible, and allowed them to prepare the foods as they desired. This was the system arrived at in the prison-of-war camps in Great Britain as the simplest solution of the problem. This the German caterers refused to do in the first months, because of the reduction of profit to themselves. This the camp commandants, for the most part, refused to do later on, because they would concede no distinctions to the different nationalities.

Later, two more or less valid reasons did develop. One was the size of the camps. With the huge camps running up to forty or fifty thousand, the Russians always greatly predominating, it was less feasible to segregate the barracks or the kitchens. The second related to the utilization of food. The camp authorities were afraid that if the men were given raw materials they would cook what they liked and discard the other articles. For example, when potatoes, field turnips and dried sea fish were issued for one meal, the British would soak out the fish and broil it, boil the potatoes, and throw the turnips away. Therefore, to secure complete utilization, the Germans cooked the three into a thick soup, and the ingredients had all to be eaten or let lie. Cooking up all the materials compelled the consumption of the poorer foods, and reduced the cost of maintenance. And as the supplies became more and more coarse, approximating fodder, the more necessary it seemed to cook them altogether. When an Englishman protested that he could not eat such a mess, the German pointed to the Russian contentedly consuming a double portion, and gave a shrug of the shoulder as much as to say, "If it is good enough for your ally in the contest for higher civilization, it is good enough for you." The more the Tommy fought the diet the more determined the German was to make him eat it, go without, or provide his own food. The Tommy finally settled the row by supplying his own food. The Frenchman, less obstreperous and more dignified, took the food when it displeased him least and pieced out with a half supply from home. The more the western Allies shipped in, the more there was for the Russian. When the Russian peasant has not enough to eat, he stands for all the world like a big hungry-eyed docile calf, locked out of the maternal stall; there is no resentment, only appeal.

The psychology of a diet is made up largely of externalities that, on paper and in fact, are much less important than protein, fat, carbohydrates, vitamins, salt and roughage. But as a matter of experience, taste, palatability and the normal appearance and consistency of the foods are of great importance. The Germans had had long experience with civic kitchens, and citations enough can be made from German writings warning against the effects of monotonous soup rations that lack all individuality as dishes. These externalities of diet are important to the normal individual. They are still more important to the abnormal individual, as may be seen in the daily experience in the sickroom. Now the truth is, the prisoner of war does not long remain normal. The crisis of battle, the terror of capture, the transition of circumstances of living, the depression of patriotism, the gloating of the captor, the abnegation of defeat, the homesickness that becomes a positive nostalgia, the insomnia—these all combine to produce reactions in the nervous system that easily lead to perversions in the physiologic functions. When finally is added to this a diet that does not please and idleness, mental and physical, the average prisoner of war, no matter in what land, lives on the verge of the abnormal. Under these circumstances, the externalities of the diet assume and finally possess an increased importance. The constant row about the preparation of the food kept many of the camps in perpetual uproar. Fault there was on the part of the prisoners of war, in that they sometimes made absurd and exaggerated complaints. But the primary

and responsible fault lay with the camp authorities, in failing to recognize how serious would be the results of a constant forcing of an unsatisfactory diet. In particular the constant eating of thick soups gets on the nerves. They looked like swill, they left nothing to mastication, and with this manner of cooking the best tastes of the ingredients were not developed; indeed, the particular tastes of the ingredients were lost. German experts in dietetics knew all this, of course. In one of the official publications dealing with the diet of the German camps, attention was drawn to the fact that constant use of soups as the chief dish caused illness in some individuals. And when they began civic feeding on a large scale last summer, loud and numerous were the warnings to the authorities not to repeat the very faults that had been committed in the prison camp. But the German experts in human nutrition had nothing or little to do with the prison-of-war fare. That was being done on the basis of the model stock farm: the men were dieted precisely like domesticated animals. At the time of highest prices of food in the summer of 1916, Professor Backhaus stated to the writer, "I can feed men brilliantly on 12 cents per day." The cost of our army ration is 42 cents. Even the Russians finally turned against the soup diet.

Wise commandants took a different position, and allowed freedom in the preparation of food. The writer has visited camps where the different nationalities were cooking their food in their own way, with satisfaction and without friction, also without losses to the commissary. It was for the most part merely a matter of consideration versus ruthlessness. We have the same things in some of our institutions. With abundant public funds, good foods are purchased; when prepared, the final product is a swill. With the average camp commandant the cause lay in the constitutional disinclination of the German to permit any individual liberty. The prisoner of war could not be allowed self-management; the authorities must do all the management. Now and then a commandant would see deeply enough to disregard this shell of sophistry, with immediate results for himself and his camp. With the right kind of camp commandants, the subsistence would have been better if Germany had not been short of food; with the wrong kind of commandants, conditions would not have been improved if foodstuffs had been abundant. If Americans are taken prisoners and sent to Parchim, Saltau, Friedrichsfelde or Wahn, they will wonder on what the printed stories of the harsh treatment of prisoners of war are based. But if they are taken to Lemberg, Minden, Langensalza or Schneidemühl, they will find it out for themselves in an unfortunately short time, unless these camps have suffered change of commandants. The German system of military control is bad, in that it tends to harshness in discipline, long notorious in the case of their own troops. When this military system was applied to prisoners of war, it became much worse in the hands of a camp commandant who was bitter because he had been compelled to give up his business to become a reserve officer in charge of a prison camp, or who, retired, felt that the battle of Verdun would have been won if he had been there at the head of a division instead of at the head of a camp of prisoners.

Officers have an entirely different system of rationing. The imprisoned officers run a mess, precisely as in their own armies in active service. The cost is charged, directly or indirectly, against them or their country. The officers of the allied countries were, for the most part, comfortably housed in Germany and were free to run their own mess until foodstuffs became scarce. They were often subjected to reprisals, usually petty but sometimes grave, and these reprisals were occasionally directed against the mess. After foodstuffs became scarce in the spring of 1916 and the rationing system was introduced for the empire, the imprisoned officers were not allowed to purchase food in excess of the amounts allotted to Germans. They imported freely foodstuffs of all kinds, and really fared fairly well. The prices charged for domestic foods were often excessive, and petty restrictions were sometimes placed on the amounts of fuel that could be purchased. The natural tendency in Germany was to treat officers well, an expression of the feeling of caste in a military country where the officer occupies a position of social distinction. But the effort failed for reasons of psychology; the Germans fail in the handling of prisoners of war just as they fail in the administration of colonial affairs. Instead of drawing out the qualities of men, German officials attempt to impress their stamp on them.

In accompanying tables are presented the two weekly diet sheets, which will serve to illustrate the subsistence in the German prison-of-war camps. The first is typical of the period prior to stringency in foodstuffs; the second serves as a contrast, and illustrates the present state of affairs.

TABLE 1.—WEEKLY DIET SHEET TYPICAL OF PERIOD PRIOR TO STRINGENCY IN FOODSTUFFS*

	Gm.	Ounces.		Gm.	Ounces
Bread	2,100	75	Sugar	200	7.1
Flour	270	9.6	Legumes	150	5.3
Meat	300	10.7	Fat	70	2.5
Fish	300	10.7	Maise grease	180	6.4
Herring	150	5.3	Pearl barley	100	3.5
Potatoes	9,000	321	Dried fruit	50	1.8
Vegetables	1,800	65	Marmalade	100	3.5
Skim milk	400	14	Tea	16	0.5
Sausage	200	7	Spices, herbs	30	11.1
Cheese	100	3.5	Cocoa	40	1.4
Nutrient yeast	40	1.4			

*Per diem: protein, 89 gm.; fat, 30 gm.; carbohydrate, 519 gm.; calories, 2,740.

TABLE 2.—WEEKLY DIET SHEET TYPICAL OF PERIOD OF STRINGENCY IN FOODSTUFFS*

	Gm.	Ounces.		Gm.	Ounces.
Bread	2,100	75	Fat	65	2.3
Flour	50	1.7	Maise grease	100	3.5
Meat	200	7	Pearl barley	60	2.1
Sausage	200	7	Fruit	300	10.7
Fish	325	11	Marmalade	100	3.5
Potatoes	3,500	125	Tea	4	0.15
Vegetables	1,650	59	Coffee	6	0.21
Skim milk	500	17	Chicory	15	0.5
Cheese	100	3.5	Cocoa	40	1.5
Nutrient yeast	20	0.7	Spices and herbs	20	0.7
Sugar	130	4.8	Mustard	50	1.7
Legumes	150	5.3			

*Per diem: protein, 57 gm.; fat, 21 gm.; carbohydrate, 310 gm.; calories, 1,720.

It is apparent from these figures that our government must undertake and organize the feeding of Americans who may be taken prisoners of war and confined in Germany. This has, indeed, been already undertaken. Food parcels can be sent in via Berne or Copenhagen, and the system of receipts affords a guaranty that the parcels are received by the prisoners. If food conditions in Germany become stringent, the military authorities may decide to rob the prisoners, reversing their previous decision, just as they reversed themselves in the U-boat campaign. Should the prisoners be robbed of their food parcels, the Allies could have recourse to nothing except reprisals on German prisoners of war—which Heaven forbid, since the western Allies could never, in theory or practice, follow the Germans in reprisals.

PROPHYLACTIC THERAPY FOR RICKETS IN A NEGRO COMMUNITY*

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For many years cod liver oil has been regarded as the sovereign remedy for rickets. Its claim to therapeutic virtue rests not only on many years of clinical experience but also on metabolism tests showing its beneficial effect on the retention of calcium. It may be properly regarded as one of the well established therapeutic agents and one which should be widely utilized. It seemed, therefore, worth while to investigate whether its usefulness could not be extended to the prophylactic treatment of rickets.

TABLE 1.—COMPARATIVE INCIDENCE OF RICKETS AMONG INFANTS RECEIVING AND NOT RECEIVING THE PROPHYLACTIC THERAPY

	Duration of Therapy, Mo.	Number of Infants	Infants Not Developing Rickets	Infants Developing Rickets	Percentage Nonrachitic
Oil given (average total 54 ounces)	6	32	30	2	93
Oil given (average total 23 ounces)	6	5	4	1	80
Oil given (average total 21 ounces)	4	12	7	5	58
Oil not given	..	16	1	15	6

No doubt cod liver oil has frequently been employed in individual instances in this way. As far as we know, however, no extensive test, embodying a considerable number of cases and continuous and careful observations, has been carried out. This is the task to which we set ourselves.

For various reasons we decided to carry on the investigation among a negro community, and for this purpose selected a district known as the Columbus Hill district. Our main reason was the fact, agreed to by all, that of all races the negro is most subject to rickets. This tendency is so marked that it may be safely stated that over 90 per cent. of the colored babies have rickets, and that even a majority of those that are breast fed show some signs of this disorder. It is evident that where rickets is so prevalent, an excellent opportunity is afforded for judging of therapeutic results.

Another factor which prompted us to select this district was that a survey of the section had recently been made by the Henry Street Settlement and National League for the Study of the Urban Conditions of the Negro, whom we wish to thank for their cooperation in this work. Thus the economic and living conditions, as well as the morbidity and mortality, had been given particular attention. The economic status of these people, as of all the negro population in the larger cities, may be summed up as very bad. The people pay high rents, earn low wages, and unfortunately have had but meager educational opportunities.

The mortality of the negro in New York City, according to the federal census of 1910, was 25.9 as against 15.3 for the white population. In the state and in a group of selected cities, the ratio was about the same. The mortality among the negro infants in the city was 202 in 1915, and 194 in 1916 for each thousand born, as compared with 96 and 94 among the white population in the same years. The Columbus Hill district, which has a population of about 9,000, bears the unenviable distinction of having the highest mortality of any neighborhood in the city, being New York's "black spot." In 1915 its infant mortality rate was 314 per thousand. Among these deaths respiratory diseases, such as pulmonary tuberculosis, pneumonia, and whooping cough, play a large rôle. This tendency has been noted by the city investigators as well as by the federal census bureau. In view of the fact that rickets is a predisposing cause of these respiratory diseases, it would seem particularly beneficial if this disease could be combated, for the purpose not only of improving the nutritional condition of the infants, but, at the same time, of reducing the infant mortality.

It was determined to give cod liver oil to about fifty babies between the ages of 4 months and a year, and to select, wherever possible, infants of families in which other children had had rickets. Before the oil was given, a careful physical examination of the baby was made, and a history of the case taken, involving the diet of the baby and of the mother, the economic condition of the family, the length of time they had lived in the North, and many other data which might be of interest in this survey. As the result of this investigation, we shall in the near future publish a study of the diet of the negro under urban conditions in the North, and attempt to associate it with the marked development of rickets among the children. We were fortunate in having the services of a nurse who had worked in this district for many years, and who was able to facilitate our access to the homes of these people. At the outset before the oil therapy was instituted, a physical examination was made and repeated at the end of two months, four months and six months, when the test was completed. Visits were frequently made by the visiting nurse and by one of us in order to follow the health of the infants and to assure ourselves that the oil was being taken. As was to be expected, there was a considerable number of mothers who, for one reason or another, were unable to cooperate in the work. These were either dropped absolutely from the list or were viewed as control cases. It so came about that although we began with eighty infants, this number was gradually depleted so that at the end of the period we had only forty-nine cases on which to base our conclusions. There were, on the other hand, compensating advantages. As the negro, in the choice of his home, is limited to certain definite localities, our follow-up work was not ham-

TABLE 2.—RELATIONSHIP OF BREAST AND ARTIFICIAL FEEDING TO THE PROPHYLACTIC THERAPY

	Duration of Therapy, Mo.	Breast Feeding		Artificial Feeding	
		Infants Not Developing Rickets	Infants Developing Rickets	Infants Not Developing Rickets	Infants Developing Rickets
Oil given (average total 54 ounces)	6	22	1	8	1
Oil given (average total 23 ounces)	6	8	1	1	0
Oil given (average total 21 ounces)	4	4	4	3	1
Oil not given	..	1	12	0	3

* From the Bureau of Laboratories, New York City Department of Health.

* Read before the Section on Preventive Medicine and Public Health at the Sixty-Eighth Annual Session of the American Medical Association, New York, June, 1917.

pered by the great difficulties which usually beset those who attempt to keep track of people in this great city for a period extending over six months.

Our results are summarized in the accompanying six tables. It is seen that we were able to prevent the development of rickets in more than four fifths of the infants who received the oil for six months, and in more than one half of those who were given it for four months (Table 1). This result must be considered satisfactory when we note that, of the sixteen infants who did not receive oil, fifteen showed signs of rickets, though all of them lived under the same

It seems unnecessary to go into detail regarding the data appended in these tables. Table 3 shows the results when a large amount of cod liver oil, an average total of 54 ounces, was given for a period lasting six months. Table 4 presents the benefits derived from smaller amounts of oil, an average total of 23 ounces, given for the same length of time. In Table 5 may be seen the effect of administering smaller amounts for a period of only four months, and finally a summary of the clinical course of the control cases among those receiving no oil is given in Table 6. We shall leave a consideration of the details to those who

TABLE 3.—SUMMARY OF CLINICAL EXAMINATIONS AND AMOUNTS OF OIL THERAPY (LARGE AMOUNTS FOR SIX MONTHS)

Case No.	Age in Dec. Mos.	Craniotabes				Rosary				Epiphyseal Enlargement				Ounces of Cod Liver Oil Taken During				Course of Rickets	Nursed
		Date of Examination				Date of Examination				Date of Examination									
		Dec.	Feb.	Apr.	June	Dec.	Feb.	Apr.	June	Dec.	Feb.	Apr.	June	Dec. and Jan.	Feb. and Mar.	Apr. and May	Total Oz.		
8	10½	+	+	0	0	++	++	++	++	++	++	++	+	24	20	8	52	Improved	Yes
9	4	++	0	0	0	++	+	0	0	0	0	0	0	16	24	32	72	Improved	Yes
10	11½	0	0	0	0	++++	++	++	+	++	++++	+++	+	36	16	16	68	Improved	Yes
39	3½	++	+	0	0	+	0	0	0	+	0	0	0	20	12	16	48	Improved	Yes
20	12	0	0	0	0	+++	+	0	0	++	+	0	0	16	16	8	40	Improved	Yes
21	9	0	0	0	0	++	++	+	+	++	+	+	+	20	8	16	44	Improved	Yes
22	9	0	0	0	0	++	++	+	0	+	0	0	0	24	8	16	48	Improved	Yes
23	3½	+++	+++	+++	0	++	++	+++	++	0	0	++	+	12	8	16	36	Progressed	No
25	6½	+++	+	0	0	++	++	+	+	++	+	+	+	16	16	16	48	Improved	No
26	6	++	0	0	0	++	+	0	0	+	+	+	+	20	8	16	44	Improved	No
28	1	0	0	0	0	0	0	0	0	0	0	0	0	8	12	16	36	Unchanged	Yes
35	9½	0	0	0	0	0	0	0	0	0	0	0	0	12	24	24	60	Unchanged	Yes
38	9½	0	0	0	0	+	0	0	0	+	0	0	0	24	20	8	52	Improved	Yes
41	5½	+	0	0	0	+	0	0	0	0	0	0	0	12	8	12	32	Improved	Yes
42	6	++	0	0	0	++	+	0	0	+	0	0	0	24	24	16	64	Improved	Yes
44	7½	0	0	0	0	+	+	0	0	0	0	0	0	16	8	24	48	Improved	No
47	13	0	0	0	0	++	++	0	0	++	++	++	+	24	32	24	80	Improved	Yes
48	9	+	0	0	0	+++	++	++	0	++	+	+	+	20	12	12	44	Improved	No
50	5¼	0	0	0	0	++	+	+	0	+	0	0	0	24	24	24	72	Improved	Yes
53	17½	0	0	0	0	+++	+++	++	+	+++	+++	++	+	24	24	24	72	Improved	No
54	4	0	0	0	0	0	0	0	0	0	0	0	0	24	24	24	72	Unchanged	No
55	6¾	0	0	0	0	++	++	++	++	0	0	0	0	14	14	15	43	Unchanged	No
57	7¾	+	0	0	0	+++	+	0	0	++	0	0	0	20	24	8	52	Improved	No
59	5	0	0	—	0	0	0	—	0	0	0	—	0	16	16	8	40	Unchanged	Yes
60	5½	++	0	0	0	+++	++	0	0	0	0	0	0	8	16	12	36	Improved	Yes
62	4½	+	0	0	0	+	+	+	+	0	0	+	+	20	16	8	44	Progressed	Yes
65	6¾	0	0	0	0	+	+	+	+	+	0	0	0	20	24	12	56	Improved	Yes
69	8½	0	0	0	0	+++	+	0	0	++	+	0	0	12	16	12	40	Improved	Yes
71	2¼	+	+	+	0	+	+	+	0	+	+	+	0	8	8	24	40	Improved	Yes
72	10	0	0	0	0	+	0	0	0	0	0	0	0	12	8	16	36	Improved	Yes
73	6½	0	0	0	0	0	0	0	0	0	0	0	0	40	32	24	96	Unchanged	Yes
77	2½	0	+	0	0	+	++	+	0	0	+	+	0	20	24	16	60	Improved	Yes

TABLE 4.—SUMMARY OF CLINICAL EXAMINATIONS AND AMOUNT OF OIL THERAPY (SMALL AMOUNTS FOR SIX MONTHS)

Case No.	Age in Dec. Mos.	Craniotabes				Rosary				Epiphyseal Enlargement				Ounces of Cod Liver Oil Taken During				Course of Rickets	Nursed
		Date of Examination				Date of Examination				Date of Examination									
		Dec.	Feb.	Apr.	June	Dec.	Feb.	Apr.	June	Dec.	Feb.	Apr.	June	Dec. and Jan.	Feb. and Mar.	Apr. and May	Total Oz.		
2	9	0	0	0	0	+	+	+	+	+	+	+	0	12	4	4	20	Improved	Yes
3	9	0	0	0	0	+	+	0	0	+	+	0	0	12	4	4	20	Improved	Yes
49	5¾	+	0	0	0	+	+	0	0	+	0	0	0	4	8	8	20	Improved	Yes
61	8	0	0	0	0	++	++	+	0	0	0	0	0	12	12	4	28	Improved	No
70	6¼	0	0	0	0	0	+	++	+	0	0	+	0	12	8	8	28	Progressed	Yes

conditions and many in the very same families. No other treatment was given, nor was a change of diet or mode of life attempted which could account for the difference in the results between the two groups of cases. Table 2 shows that the cod liver oil proved to be a more potent factor than breast feeding in warding off rickets, and that almost all the colored babies developed rickets even though they were nursed. It is naturally impossible to set fixed boundaries and classifications for different degrees of a disease. In our clinical examinations we were guided mainly by craniotabes, beading of the ribs, and the enlargement of the epiphyses, and classified these signs as of four grades of intensity, which are designated in the tables by plus signs.

care to study the data of the individual cases. The conclusion, however, seems evident that the negro infants who received cod liver oil for six months regularly ("large amounts" indicate regularity of therapy rather than any increased dosage) are protected from rickets, whereas those who were given no protective therapy were almost certain to develop the disease.

It is difficult to state either the minimum length of time that the oil must be given to accomplish prophylaxis or the minimum dosage necessary. A review of the results as portrayed in the tables, however, shows that a four months' course of treatment, averaging a total of from 16 to 20 ounces of oil, is insufficient to afford protection (Table 5). Among twelve infants

of this group, five were found to show progressive rickets It would seem that six months should be considered the minimum duration of treatment. It is likewise true that no hard and fast rule can be laid down as to dosage. Our plan was to give infants under 6 months one-half teaspoonful of oil three times a day and older infants twice this amount. It was found that almost all babies can take cod liver oil, although it may disagree temporarily and may have to be discontinued for short intervals when there is digestive disturbance. Infants of from 2 to 3 months tolerate the oil in half-teaspoonful doses, and younger ones may be given still smaller amounts. This study was not carried out during the summer months, so that it does not provide a criterion of the practicability of oil opment—that specialized clinics should be established to meet the particular needs of a given neighborhood. In Italy quinin is dispensed in clinics formed for those suffering from malaria. Along similar lines have been the creation of tuberculosis and cardiac clinics.

As a result of our experience, we would recommend that dispensaries of this kind be provided in large cities in the negro and the Italian districts, for rickets is almost as prevalent among the Italians as among the colored people. Such dispensaries do not have to be created at large expense. They can be instituted in connection with existing milk or baby welfare stations, where provision can be made for dispensing cod liver oil. The details of this plan cannot well be discussed, as they will no doubt differ according to special condi-

TABLE 5.—SUMMARY OF CLINICAL EXAMINATIONS AND AMOUNT OF OIL THERAPY (SMALL AMOUNTS FOR FOUR MONTHS)

Case No.	Age in Dec. Mos.	Craniotabes				Rosary				Epiphyseal Enlargement				Ounces of Cod Liver Oil Taken During				Course of Rickets	Nursed
		Date of Examination				Date of Examination				Date of Examination									
		Dec.	Feb.	Apr.	June	Dec.	Feb.	Apr.	June	Dec.	Feb.	Apr.	June	Dec. and Jan.	Feb. and Mar.	Apr. and May	Total Oz.		
15	8¼	+	0	0	0	+++	++++	++	++	++	++	+	+	8	16	0	24	Improved	Yes
27	16	0	0	0	0	0	0	0	0	+	+	0	0	12	12	0	24	Improved	No
36	2¾	0	0	—	0	0	++	—	+	0	+	—	0	12	8	0	20	Progressed	Yes
40	3	0	0	0	0	++	+	0	0	0	0	+	+	8	16	0	24	Progressed	Yes
58	7	++	0	0	0	++	++	+	0	0	+	0	0	12	16	0	28	Improved	No
63	2½	0	0	0	0	0	+	+	0	0	0	0	0	8	16	0	24	Improved	Yes
64	6¼	+	0	0	0	++	+	++	++	++	+	+	+	12	8	0	20	Improved	Yes
68	2¾	+	+	0	0	+	+	++	++	+	+	+	0	4	8	0	12	Progressed	Yes
74	2¾	0	0	—	0	0	+	—	+	0	0	—	0	8	16	0	24	Progressed	Yes
75	17	0	0	0	0	++++	+	+	+	++	++	++	+	16	8	0	24	Improved	No
17	4	+	0	0	0	+++	++++	++++	+++	++	++	+++	+++	8	8	0	16	Progressed	No
34	4½	0	0	0	0	0	0	0	0	0	0	0	0	4	12	0	16	Unchanged	Yes

TABLE 6.—SUMMARY OF CLINICAL EXAMINATIONS WHEN NO OIL WAS GIVEN (SIX MONTH PERIOD OF OBSERVATION)

Case No.	Age in Dec. Mos.	Craniotabes				Rosary				Epiphyseal Enlargement				Course of Rickets	Nursed	Remarks
		Date of Examination				Date of Examination				Date of Examination						
		Dec.	Feb.	Apr.	June	Dec.	Feb.	Apr.	June	Dec.	Feb.	Apr.	June			
1	8½	0	—	—	0	++	—	—	++	+	—	—	+	Unchanged	Yes	
7	5½	+	0	0	0	++	++	++	+++	+	+	0	0	Progressed	No	Gave 12 oz. oil
11	4¾	+	+	—	+	++	++	—	++	+	+	—	++	Progressed	Yes	
14	15	0	0	0	0	++	++	++	+++	++	++	++	++	Progressed	Yes	Gave 12 oz. oil
16	2¾	0	0	—	0	0	0	—	+	0	+	—	0	Progressed	Yes	
18	6½	0	0	—	Died	++	+++	—	Died	0	++	—	Died	Progressed	No	
24	3½	+++	+++	+++	0	++	++	+++	+++	+	+	++	++	Progressed	No	Gave 12 oz. oil
31	3¼	0	0	*	+	++	++	*	+++	0	0	*	0	Progressed	Yes	
37	5¼	0	0	—	0	0	+	—	—	0	0	—	—	Progressed	Yes	
39	7¼	0	0	0	0	++	++	++	+++	+	+	+	+	Progressed	Yes	
43	2	0	+++	—	—	+	++	—	—	0	0	—	—	Progressed	Yes	
51	2	++	++++	—	++++	+	+	—	++	0	0	—	++	Progressed	Yes	
52	3	0	0	—	0	++	++	—	+++	0	0	—	0	Progressed	Yes	
56	2½	+	++	—	+++	++	+++	—	+++	0	+	—	++	Progressed	Yes	
67	3¼	+	++	—	+	++	++	—	+++	++	++	—	+++	Progressed	Yes	
80	2½	0	0	—	0	++	++	—	++	0	0	—	+	Progressed	Yes	

* Pneumonia.

therapy in the warm weather. As the result of personal experience gathered at other times, we believe that with slight modification it can be pursued throughout the year. In summer, moreover, rickets seems to pass through a quiescent period; therefore treatment is not so necessary as in the colder season.

After a few months we arranged that instead of having the oil delivered to them, the mothers should call for it at the neighborhood settlement house, for which purpose an office hour was appointed for each morning and one evening a week. The report of this work gradually spread throughout the district, and the ordinary symptoms of rickets became the common knowledge of the mothers, who often brought their babies to the consultation with the request that cod liver oil be administered. In this way a rickets clinic was soon evolved. This would seem to be a logical develtions. Whether it is necessary to use Norwegian oil is very doubtful; it is probable that a less expensive cod liver oil will produce equally good results. In order to combat the high infant morbidity and mortality among the negroes of the Columbus Hill district, Commissioner Emerson of the Department of Health will establish a rickets clinic this fall in connection with its baby welfare station, and will dispense cod liver oil at cost.

16 West Eighty-Sixth Street.

ABSTRACT OF DISCUSSION

DR. HAVEN EMERSON, New York: We have been fortunate in New York in having the direct benefit of the whole series of Dr. Hess' rather striking experiments, not only the laboratory experiments with the experimental animals, but the

observations in the institutions which he has under his control; and now these field experiments, in the very areas in which we have been attempting to make an impression on a racial problem of rickets. I will leave it to Dr. Sobel to tell you what has been done in meeting the problem among the colored children; but I think it is well for us to consider this report of Dr. Hess as a very important addition to our knowledge of so-called racial susceptibilities to disease.

We have been always told that the Italians and the colored people were racially susceptible to rickets. On a closer analysis it may easily prove to be that what we have put down as a racial susceptibility is merely a result of economic habit—their habits changing radically when they move from their normal habitat in the West Indies to an abnormal housing and economic condition in this city. The colored people buy the most expensive cuts of meat. They are apt to get meat that many of us would hesitate to buy for our own tables because of the high cost of it. Their racial habits of buying and preparing food may easily be the reason of this so-called racial idiosyncrasy to rickets.

Dr. Hess has suggested, and brought it already to the attention of the department of health, that we should dispense cod liver oil from the baby health stations. I think those of you who are responsible for public health administration realize how many are the requests for using the health department organization to promote or exploit some special substance. It would be just as logical to dispense sugar of milk or limewater at cost, or some of the proprietary foods which are found valuable in difficult feeding cases. The department of health has had to refuse to do that; but it is possible to see that a pure cod liver oil is furnished at the local drug stores.

Dr. Hess did not tell you one of the interesting results of his study and teaching. The mothers are now coming to his clinic saying: "I want to have cod liver oil for my baby." He asks them, "Why do you want it?" "They have little swellings around the end of the long bones; they have got little lumps on their wrists." The mothers are beginning to realize what is happening to the babies. He has carried on a campaign of education which is going to redound to the benefit of all the colored babies and diminish the death and sick rate of these children in a variety of ways.

DR. J. SOBEL, New York: No one is more interested in the infant mortality problem, probably, than I am; and any contribution along those lines, of course, is entirely welcome. We have a very definite infant mortality problem in New York City as far as the colored people are concerned. When I tell you that in 1915 the infant mortality rate per thousand births among colored children was 202 as against 96.1 for whites, and that in 1916 it was 193.3 against 91.2 for whites, in other words, that the infant mortality among the colored was 110 per cent. more than among the whites, you will understand readily that we have a definite problem to cope with. In the section that Dr. Hess is working in, the Columbus Hill district, or the San Juan district, as it has been termed because of the "peaceful" character of the population, the infant mortality is 314; and that naturally led to a great many observations, not only on the part of the department, but along Dr. Hess' lines. Rickets, of course, is a contributing factor toward infant mortality and predisposes the child to diseases of the respiratory tract, and to gastro-intestinal diseases, to say nothing of the occasional cerebral involvements; and if we can control rickets, we will diminish infant mortality along those particular lines. This is only a small proportion of the mortality, however, since I learned this afternoon that the infant mortality rate among the colored for congenital diseases was 71 as against 41 for the entire city.

As I look at the table of Dr. Hess I may be wrong, but I find in that table one of the most potent arguments for the increased feeding of babies with milk, rather than with cod liver oil. We find here that the mothers and, coincidentally, the babies get a large protein intake, that is, a large meat intake and a large egg intake, a comparatively good vitaminic intake in the form of fruits and vegetables, a fairly large corbohydrate intake, but a very low fat intake. The milk and the cocoa are practically the smallest intake of the people; and that shows us what we found out years ago, that one of the main causes of rickets is the deficiency in fat. We know that rickets is more common among children who take patent baby foods with a large carbohydrate content. If cod liver oil is a prophylactic agent against rickets, it probably works not specifically, but rather through its fat content; and if I can give the colored people an extra bottle of milk a day, I think that I would do a great deal better than by giving them cod liver oil; and, what is more, I know they will buy the milk in preference to the cod liver oil; in fact we have already had a great deal of difficulty in having these people purchase cod liver oil. I don't mean to say that they will not take it if we give it to them for nothing; but, as far as purchasing cod liver oil is concerned, it is a different proposition. As I see it, while, as a supplemental treatment, or a supplemental prophylactic agent, we might dispense or should dispense cod liver oil, still I think we would obtain better results if we educated the colored people to increase the purchase of milk.

DR. A. F. HESS, New York: It is well known that milk will not prevent rickets. Children who get plenty of milk get rickets. Breast fed children get rickets; among the colored it is not at all unusual to see very marked rickets among the breast fed; so that the milk is not a protection. Just what is the specific nature of the cod liver oil, I do not know. Olive oil will not take its place. It requires some animal oil, probably from some glandular organ.

In this table milk was taken forty-seven times and cocoa thirty-eight; the latter was made almost entirely with milk. We must also remember that the yolk of the egg has a very high fat content. In order to simplify matters I have omitted the milk taken with tea and coffee. I have abbreviated the study very greatly, but have calculated all according to calories and find that they take an adequate number of calories of protein, carbohydrate and fat.

CARBON MONOXID POISONING

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The deaths from carbon monoxid poisoning in large cities now exceed those from any other poison. In Cook County our records show a steady increase in death by such asphyxiation. The total number of gas cases for 1916, 501, constitutes nearly 8 per cent. of the entire number of coroner's cases, taking fourth place in the numerical order of different forms of death for the year. The increase is to be attributed, not to carelessness or ignorance, but rather to the widespread knowledge of the ease with which carbon monoxid produces death, the more marked increase coming under the class of suicides, as shown in the accompanying tables.

Carbon monoxid occurs most commonly as a product of combustion in ordinary stoves, salamanders, furnaces, blast furnaces[1] and gas engines;[2] in fumes from explosions, and in "after damp" of explosions

1. Willcox: Asphyxiation from Blast Furnace Gas, Technical Paper 106, Dept. of the Interior, Bureau of Mines, Washington, D. C., 1916.

2. Hood and Kudlich: Bulletin 74, Department of the Interior, Bureau of Mines, Washington, D. C., 1915. Analysis of exhaust gases shows them to be a mixture of carbon monoxid, carbon dioxid, oxygen, nitrogen, hydrogen, water vapor and a small but negligible quantity of gasoline vapors. The amount of carbon monoxid varies with the size of the engine cylinder, good carburation and poor carburation; the maximum amount of carbon monoxid was 13.5 per cent. in tests made with gasoline mine locomotives. The exhaust from automobiles contains varying proportions of carbon monoxid, from 1.16 to 6.62 per cent., and has been the cause of the death of a number of people. The blood from several necropsies was submitted to me for examination. I found the hemoglobin to be 36 per cent. saturated in one case, and 40, 58 and 64 per cent. saturated in three other specimens. Cases of poisoning from carbon monoxid have been reported in France in ambulances warmed from the exhaust gases of the engine.

of methane and coal dust in mines; in mine fires, in the smoke of burning buildings, and in illuminating gas. In electric furnaces having limestone linings, the carbon dioxid is reduced to carbon monoxid by the heated electrode.[3] Tobacco smoke contains about 80 c.c. of carbon monoxid to each gram of tobacco burned.[4] Using an intermittent aspirator to imitate the smoking of tobacco, I found that the carbon monoxid of the inhaled smoke from cigarets was from 0.014 per cent. to 0.26 per cent. of the tobacco and paper consumed; from cigars it was from 0.027 to 0.15 per cent., and from pipe tobacco 0.027 per cent.

TABLE 1.—ASPHYXIATIONS, 1912-1916

	Carbon Monoxid	Water Heaters	Accidental	Undetermined*	Suicides	Homicides	Totals
1912							
Jan.	29.48	1	14	8	13	0	36
Feb.	28.65	0	13	3	12	1	29
March	29.18	0	8	5	17	2	32
April	29.50	1	14	1	18	0	34
May	29.29	2	7	10	20	0	39
June	29.29	0	7	6	11	2	26
July	28.73	1	5	5	17	3	31
Aug.	28.97	0	6	2	8	1	17
Sept.	28.80	0	2	3	15	0	20
Oct.	29.56	0	12	9	8	0	29
Nov.	29.54	0	14	4	9	0	27
Dec.	29.20	0	22	5	20	1	48
1913							
Jan.	29.26	0	9	3	13	0	25
Feb.	29.30	0	14	4	9	0	27
March	29.57	0	20	9	7	0	36
April	29.33	0	6	3	20	1	30
May	29.77	0	12	7	17	0	36
June	30.01	0	17	5	11	1	34
July	30.76	0	5	1	17	0	23
Aug.	29.79	0	7	3	10	0	20
Sept.	29.88	1	16	4	15	0	36
Oct.	30.09	0	9	8	17	0	34
Nov.	29.97	0	11	12	7	0	30
Dec.	29.94	0	8	9	9	0	26
1914							
Jan.	28.6	0	10	2	24	0	36
Feb.	28.6	1	8	6	18	0	33
March	24.5	1	13	8	15	0	37
April	27.5	0	9	8	11	2	30
May	....	0	10	12	19	0	41
June	22.7	0	2	6	11	0	19
July	....	0	4	1	8	1	14
Aug.	27.1	0	7	4	14	0	25
Sept.	26.8	1	4	7	28	1	41
Oct.	25.5	0	18	11	28	0	57
Nov.	26.6	0	10	4	15	1	30
Dec.	26.6	0	13	16	15	0	44
1915							
Jan.	30.1	1	6	4	20	0	31
Feb.	30.1	2	14	12	15	1	44
March	29.8	0	15	5	26	2	48
April	29.2	1	14	6	19	3	43
May	25.2	2	10	7	17	0	36
June	30.5	6	11	7	25	0	49
July	27.8	0	6	3	30	0	39
Aug.	27.8	3	2	6	19	2	32
Sept.	25.4	1	7	7	17	0	32
Oct.	27.8	1	17	11	19	0	48
Nov.	27.0	0	13	9	20	1	43
Dec.	24.9	0	20	13	13	1	47
1916							
Jan.	23.9	1	16	9	23	5	54
Feb.	26.4	1	13	7	13	0	34
March	24.1	0	18	7	21	0	46
April	22.9	0	19	8	19	0	36
May	27.2	2	14	8	23	0	47
June	26.2	2	11	2	12	4	31
July	23.0	0	5	12	20	4	41
Aug.	24.2	0	5	4	12	0	21
Sept.	22.4	0	13	8	26	3	50
Oct.	22.6	0	23	9	17	1	50
Nov.	30.1	0	7	5	10	0	22
Dec.	31.0	0	14	6	13	2	35

* Undoubtedly many of the "undetermined" cases were suicides, the evidence being inadequate to warrant a verdict of suicide.

3. Moissan: Le four electrique, Paris, 1887, p. 15.
4. Thompson: Lancet, London, 1904, **1**, 395. Fleig: Compt. rend Acad. d. sc., 1908, **146**, 1776.

deep sleep, or by a person with a defective sense of smell. It has been suggested that ethylene (C_2H_4), which is very poisonous to plants, might be the real cause of the gas asphyxiation.[5]

The proportion of carbon monoxid differs greatly in domestic and industrial gases, varying between 4 and 30 per cent., in coal gas 4 to 10 per cent., and 30 per cent. in water gas, and 20 and 30 per cent. in producer gas. Almost all illuminating gas contains a large proportion of water gas, so that when this gas is discharged into an inhabited space it becomes exceedingly dangerous. An atmosphere containing 0.2 per cent. is capable of destroying life.[6]

It is commonly believed that during the winter months the percentage of carbon monoxid increases, and that this is the chief reason for more deaths from gas poisoning. The percentage of carbon monoxid does not, however, increase during the winter. Table 1 gives the percentage of carbon monoxid and the number of deaths from gas asphyxiation for each month for the years from 1912 to 1916 inclusive. The more extended use of gas in the homes during the dark and cold months of the winter and the closed doors and windows, preventing proper ventilation if there are leaky pipes or loose cocks, accounts for the increased number of asphyxiations. All gas stoves, plates and heaters should be connected by metal instead of rubber. This precaution alone would save many lives each year.

TABLE 2.—TOTAL GAS ASPHYXIATION CASES FOR THE ELEVEN YEARS FROM 1905 TO 1915, INCLUSIVE*

Asphyxiation by Gas	Accidental	Undetermined	Industrial†	Water Heaters†	Suicide	Homicide	Totals
1905	59	55	...	...	83	7	204
1906	87	36	...	...	59	5	187
1907	76	61	...	...	74	1	212
1908	85	75	...	...	115	3	278
1909	102	81	...	...	107	12	302
1910	127	65	10	4	116	7	329
1911	103	66	4	7	115	2	297
1912	110	61	11	10	153	9	354
1913	148	64	...	1	163	3	379
1914	103	78	3	2	200	5	392
1915	126	93	5	17	242	6	489
1916	160	92	6	6	219	18	501
Total	1,286	827	39	48	1,646	78	3,924

* In this table, the cases are counted from December 1 to the following December 1, the fiscal year for the coroner's office.
† The industrial gas cases and those by water heaters were included with the "accidental" and "undetermined" up to the year 1910.

Carbon monoxid combines chemically with the hemoglobin of the blood to form a stable compound. According to the research of Nicloux,[7] one volume of carbon monoxid acts like 220 volumes of oxygen. The corpuscle is not dead. All it needs is oxygen under sufficient tension to displace the carbon monoxid. Hill[8] and Barcroft[9] have demonstrated that carbon monoxid combines more readily with unsaturated oxyhemoglobin than with hemoglobin. Hemoglobin will take up more carbon monoxid at a given tension if a little oxygen is present than if oxygen is completely absent. Hufner[10] found that 1 gm. of carbon monoxid hemoglobin contains 1.338 c.c. of carbon monoxid, computed at 0 C. and 760 mm. pressure. The oxygen absorbed from the air is normally

5. Matthews: Physiological Chemistry, 1915, p. 495.
6. Haldane: Jour. Physiol., 1895, **18**, 430-462.
7. Nicloux: Presse méd., 1916, **25**, 153.
8. Hill: Biochem. Jour., 1914, **7**, 471-480.
9. Barcroft: Biochem. Jour., 1914, **7**, 481-491.
10. Hufner: Arch. f. Physiol., 1894, p. 130.

taken up by the blood in the form of a loose chemical combination with the red coloring matter (hemoglobin) of the corpuscles, and in this form it is carried to the tissues in which it is used. Oxygen and carbon monoxid combine chemically with hemoglobin in equal molecular proportions, and therefore in equal volumes, the oxygen combination readily liberating its oxygen, while the carbon monoxid is relatively stable.

People nearest to the doors or windows in a room into which illuminating gas is escaping suffer the least, and those nearest the floor the most.

CASE 1.—Dec. 22, 1906, E. F. and a woman went to a rooming house at 4 p. m. At 5 p. m. the landlady noticed the odor of gas coming from the room. As no one responded when she knocked at the door, entrance was gained from the transom. The man was found dead. The woman, still breathing, was removed to a hospital, where she recovered. The woman was on the inside of the bed, near a window. A gas heater was found in the room with two burners still lighted, and three unlighted burners from which gas was escaping.

CASE 2.—Feb. 12, 1915, C. W. and roommate were found in a room unconscious from gas escaping from a defective hose on a gas heater. The roommate, who was nearer to a window, recovered.

CASE 3.—March 16, 1916, F. M. A. died from gas escaping from a defective heater. The roommate on the inside of the bed nearer the window recovered.

Many other cases could be cited from our records, but the foregoing are typical, and the first case illustrates that a person can be asphyxiated in a room where a gas burner or jet is lighted.

LETHAL DOSE

Exposure to a contaminated atmosphere for two or three minutes may cause serious illness. Burrell[11] found that exposure for twenty minutes to air containing 0.25 per cent. of carbon monoxid made him sick for eight hours after the exposure. Air containing as little as 0.1 per cent. of carbon monoxid when breathed for several hours produced headache and vomiting with some members of the Bureau of Mines, while others were not affected. An exposure of ten minutes in a cellar has killed a person.[12] Two men in a cooper shop fire in Chicago, June 7, 1917, went into the burning building to recover their tools. In thirty minutes both were found dead. Examination of the blood showed that death was due to carbon monoxid asphyxiation (from smoldering wood).

DURATION

In the majority of cases the victims are found dead or die a short time afterward. Fishbein[13] reports a patient living five days, Long and Wicki,[14] thirty-six days, Sibelius,[15] three months. I have examined the blood of several patients who lived two days, and one who lived four days after exposure to illuminating gas. Recovery is usually complete within a week, but after-effects may persist for weeks and months. O'Malley[16] reports a case of a woman who, poisoned by illuminating gas, did not regain her mental faculties for three months. He refers also to a case cited by Broudel, namely, that of a physician poisoned by carbon monoxid, who lost his memory, this amnesia lasting eighteen months, at the end of which time he fully recovered.

There are few references in toxicologic literature to homicidal poisons unaccompanied by simultaneous suicide by illuminating gas, or gases containing carbon monoxid.

CASE 4.—Dec. 14, 1916, Mrs. B. turned on the gas, killing her two children. Her husband had committed suicide the previous day. The woman was found to be insane and was committed to an asylum.

CASE 5.—June 26, 1917, a mother killed her baby with gas, attempting suicide. She was held for murder.

Carbon monoxid poisoning may be of interest in civil cases, for instance, under conditions in which death is a form of chronic poisoning and the results amount to criminal negligence on the part of another.

In another case, the estate of *Catchman Olsen* vs. *City of Chicago*,[17] the widow was given a verdict of $3,500, the death of Olsen having been proved to be due to a leaky gas-pipe in one of the repair shops of the city. When an insurance policy is involved it is of the utmost importance to show the presence of carbon monoxid by chemical examination, and to prove whether the case is a murder, a suicide or an accident, as a policy may be void in the case of a suicide. The origin of the poisonous gas may usually be found from the surroundings, as an open gas-jet, or a leak in the feed pipes. A loose-fitting stockcock of many a gas-jet may be opened by careless persons throwing their wraps over a wall gas-bracket or over the gas fixture suspended from the ceiling. Several cases of such carelessness were investigated by the coroner's office during 1916. At inquests it is frequently desirable to distinguish between poisoning by coal gas, illuminating gas, or other source. At the present time there are no good analytic methods by which we can distinguish illuminating-gas poisoning from that due to coal fumes. Wachholz[18] has suggested that the presence of hydrocyanic acid in the blood, and Cruz[19] that the presence of hydrocarbons in the blood gases would identify the source of the carbon monoxid as being illuminating gas. An investigation of the room for the source of the carbon monoxid will give more definite results than a chemical examination of the blood gases.

In one case investigated, a medical student had been overcome by carbon monoxid from a smoking oil-stove on which he was cooking his meals. The room, free from gas fixtures, was covered with soot. In three different instances a closed stovepipe damper caused the coal-gas fumes to enter the room and produce death by carbon monoxid gas.

Two or more persons may be exposed to a contaminated atmosphere; one or more may die, while the others recover.

Three young physicians in Melbourne, after playing tennis, went to bathe in a shower bath, in which the water was heated by a gas burner. Half an hour later a messenger found one dead and two unconscious.[20]

Jan. 5, 1917, three men were found unconscious in a room. One man died, the other two recovered. A

11. Burrell and Seibert: Miners' Circular 14, Dept. of Interior, Bureau of Mines, Washington, 1914.
12. Coullaud: Ann. d'hyg., 1909, Series 4, **12**, 490.
13. Fishbein, Morris: Illuminating-Gas Poisoning, THE JOURNAL A. M. A., March 8, 1913, p. 737.
14. Long and Wicki: Rev. méd. de la Suisse romande, 1902, **22**, 172.
15. Sibelius: Ztschr. f. klin. Med., 1903, **49**, 111.
16. O'Malley: Am. Jour. Med. Sc., 1913, **145**, 865.
17. Olsen vs. City of Chicago, Decision on Review, Vol. 697, Book 2, Case 262, April 30, 1914.
18. Wachholz: Ztschr. f. med. Beamte, 1896, **9**, 400.
19. Cruz: Ann. d'hyg., 1898, Series 3, **39**, 385.
20. Lancet, London, 1911, p. 1102.

stovepipe had parted from a hard coal burner, allowing the carbon monoxid to escape into the room. The blood of the man who died was 45 per cent. saturated with carbon monoxid.

The time required to completely elminate carbon monoxid by respirations of pure air has not been determined definitely. It varies greatly with different patients, the carbon monoxid hemoglobin apparently not being in all cases under sufficient tension with oxygen to readily liberate the carbon monoxid. Henderson[21] states that carbon monoxid is practically eliminated in three or four hours. The experiments of Michel[22] tend to show that it does not exceed a few hours; Koch[23] states that he has found it after ten hours; Pouchet[24] after sixty hours; Fishbein[13] after five days; Wachholz[25] after seven days. In specimens of blood submitted to me from two cases ending fatally in two days, and one of four days' duration, I was able to detect carbon monoxid hemoglobin. I have had over 100 cases of over four hours' standing, in which I could detect carbon monoxid by definite color tests and the palladious chlorid method. In a large number of my cases of gas poisoning, with clear histories of attempted or consummated suicide by means of illuminating gas, the blood failed to show the presence of carbon monoxid after the respiration of pure air and oxygen for a few hours. Blood from suicides who died within a half hour after being discovered in a gas-filled room contained as high as 13.5 per cent. of carbon monoxid by volume. Blood from other cases in which life was prolonged for a couple of hours contained from traces to 5.5 per cent. carbon monoxid.

The compound of carbon monoxid hemoglobin can be dissociated by hydrogen and carbon dioxid as well as with oxygen. Gaglio[26] demonstrated that carbon monoxid inhaled by an animal may be recovered from the expired air with a loss of only 2.8 per cent., due to experimental conditions. The odor of illuminating gas has frequently been noticed in the expired air of patients after being taken to a hospital. Nicloux states that he has found carbon monoxid in normal blood of dogs and in human blood. The amount found in the blood gases of dogs living in Paris varied from 0.08 to 0.18 per cent. Using the method of Fodor, I have failed to find carbon monoxid in the blood of dogs and in normal human blood. Buckmaster and Gardner[27] failed to find carbon monoxid in the blood gases of cats.

For the symptoms and pathology of carbon monoxid poisoning the reader is referred to an article by Dr. W. Gilman Thompson,[28] and an article by Dr. G. L. Apfelbach.[29]

TESTS FOR CARBON MONOXID

Carbon monoxid may be detected in the air through the absorbent power of a solution of cuprous chlorid in an excess of hydrochloric acid or an excess of ammonia.[30] With an active solution of cuprous chlorid with large amounts of carbon monoxid, from 20 to 40 per cent., the residual gas after passing through the cuprous chlorid will contain only 0.03 to 0.10 per cent. carbon monoxid.[31] Birds and mice have been used for the detection of carbon monoxid in the air of mines. With 0.2 per cent. carbon monoxid, a mouse collapsed in fifteen minutes. At the end of an hour it had lost all muscular power. It died in two hours. Canaries are more sensitive to carbon monoxid, 0.2 per cent causing distress in one and a half minutes, and they will fall from the perch in five minutes.[32]

Air may be drawn through a bottle containing iron wire gauze moistened with ammoniacal water, then through a Liebig bulb containing 10 c.c. of diluted blood (1:200). The blood may be examined by means of the spectroscope or the tannic acid reaction, Hempel being able to detect 0.06 per cent. carbon monoxid by aspirating large volumes of air through the diluted blood. Paper moistened with a 2:1,000 neutral solution of palladious chlorid, hung in a 10 liter bottle of air, will blacken if the air contains as small an amount as 0.05 part of carbon monoxid in 1,000 parts of air. The paper is also blackened by hydrogen sulphid, ozone and sulphurous acid.

Carbon monoxid hemoglobin imparts to blood a characteristic pink color, even when only a small proportion of the gas is present. Five-tenths c.c. of the unknown sample of blood and a like amount of the normal blood are diluted to 100 c.c. in a cylinder. The normal blood will have a buff yellow tint and the sample, if it contains carbon monoxid, will have a pink color. In testing for carbon monoxid in a contaminated atmosphere, a tube or cylinder containing the diluted normal blood is taken to the place where the air is to be examined. The normal blood is poured out into another tube, so that the air takes the place of the blood. The normal blood is then added to the tube, corked and shaken for about ten minutes. If the air contains carbon monoxid, a distinct pink color of the carbon monoxid hemoglobin will be noticed when the comparison is made with the original buff colored blood.

A large number of tests have been suggested for the detection of carbon monoxid hemoglobin, all of which take a number of hours before a positive result can be reported. If the blood is more than 27 per cent. saturated with carbon monoxid, the spectroscopic examination will readily show the carbon monoxid hemoglobin. If less than 5 per cent. of the coloring matter is saturated, all of the color tests will fail. For the rapid detection and estimation of carbon monoxid in the blood I have found Fodor's method to be the best. In the routine examination of blood for gas poisoning I have found the dilution test, the boiling test, the sodium hydroxid test, the basic lead acetate test, the spectroscopic examination, the palladious chlorid test, the ferrocyanid test, and the tannic acid test the most reliable. If positive results are obtained with the tannic acid, basic lead acetate, and palladious chlorid tests, all other tests can be considered superfluous.

21. Henderson, Yandell: Carbon Monoxid Poisoning, THE JOURNAL A. M. A., Aug. 19, 1916, p. 580.
22. Michel: Vrtljschr. f. gerichtl. Med., 1897, **14**, 36.
23. Koch: Diss., Greifswald, 1892.
24. Pouchet: Ann. d'hyg., 1888, **30**, 361.
25. Wachholz: Vrtljschr. f. gerichtl. Med., **23**, 231.
26. Gaglio: Arch. f. exper. Path. u. Pharmakol., 1887, **22**, 235.
27. Buckmaster and Gardner: Jour. Physiol., 1910, **41**, 60, 246; Proc. Roy. Soc., 1909, **81**, 516.
28. Thompson, W. G.: A Clinical Study of Ninety Cases of Illuminating Gas Poisoning, Med. Rec., New York, 1904, **66**, 41.
29. Apfelbach, G. L., quoted by Kober and Hanson: Diseases of Occupation and Vocational Hygiene, 1916.
30. Hempel: Methods of Gas Analysis, English translation of third German edition by Dennis, 1910, p. 206.
31. Burrell and Seibert: Bulletin 42, Bureau of Mines, Washington, D. C., 1913, p. 48.
32. Burrell: Technical Paper 11, Bureau of Mines, Washington, D. C., 1912. Burrell, Seibert and Robertson: Technical Paper 62, Bureau of Mines, Washington, D. C., 1914, p. 12.

Spectroscopic Test.—In the examination of carbon monoxid hemoglobin spectroscopically, I use a 1 per cent. solution of the blood in a small cell of 1 cm. inside diameter holding 0.5 c.c., mounted on an ordinary microscopic slide. With a Zeiss microspectroscope, a comparison with normal blood of the same dilution can be made simultaneously. Carbon monoxid hemoglobin shows a characteristic absorption spectrum closely resembling that of oxyhemoglobin, having two absorption bands between the D and E lines. When the blood is more than 27 per cent. saturated by carbon monoxid, the addition of a reducing agent, as Stokes' reagent or a solution of ammonium sulphid, does not convert the spectrum into one of reduced hemoglobin, which is a single band beginning at the D line and occupying a little more than half the space to the E line.[33]

Boiling Test.—Blood containing carbon monoxid gives a brick-red coagulum, if boiled. Ordinary blood gives a brownish black precipitate.

The Sodium Hydroxid Test of Hoppe-Seyler.—This is made by mixing blood in a porcelain dish with an equal volume of sodium hydroxid solution (of specific gravity 1.3) when normal blood forms a black, slimy mass, which appears greenish brown in thin layers, while carbon monoxid blood forms a red coagulum.

Tannic Acid Test.—The tannic acid test of Wetzel is one of the easiest and most delicate of the color tests. The blood, diluted one part by volume to four of water, is shaken with an equal volume of a 1 per cent. tannic acid solution (the original method calls for three times the volume of tannic acid solution, but I prefer an equal volume). Normal blood becomes gray in twenty-four hours, in the presence of carbon monoxid, a carmin red. The results are marked and the color distinction easy. The difference persists and becomes more marked with increasing time. The red precipitate holds its color for months. One specimen in my laboratory still retains the carmin color after four years. One per cent. of carbon monoxid (5 per cent. saturated) can be detected in blood with the tannic acid test. In an exhumed body which had been embalmed for thirty days, I was able to demonstrate the presence of carbon monoxid hemoglobin by the tannic acid and palladious chlorid methods.

Basic Lead Acetate Test.—In the basic lead acetate of Rubner, four volumes of basic lead acetate are added to one volume of carbon monoxid blood, and shaken for about one minute. Carbon monoxid gives a fine red color; normal blood gives a brownish color changing to a brownish-gray. The difference increases on standing; the red is still noticeable after many months. Formaldehyd used in embalming fluids interferes with this test, giving a whitish coagulum (Fishbein).

Potassium Ferrocyanid Test.—When 10 c.c. of blood are mixed with 15 c.c. of a 20 per cent. potassium ferrocyanid solution and 2 c.c. of a 30 per cent. acetic acid, a solid coagulum gradually results; if normal, the coagulum is dark brown to black, but when the blood contains carbon monoxid, a bright red will be obtained (Wetzel).

Haldane's[34] *Quantitative Method.*—For the carbon monoxid, this yields satisfactory results with fresh blood; but with dark colored blood from cadavers, the colors are hard to match with a Duboscq colorimeter, the results obtained being far too high compared with the palladious chlorid method.

For the quantitative estimation of carbon monoxid in air and in blood, the method of Nicloux[35] or that of Fodor[36] is preferred to that of Haldane, especially with blood from cadavers which may not be of a bright cherry red. The method of Nicloux is based on the reaction of the oxidation of carbon monoxid by iodic acid and the determination of the liberated iodin with a standard solution of thiosulphate. In a form of apparatus devised by Seidell,[37] the carbon dioxid liberated may also be determined. The reaction may be expressed by the equation: $I_2O_5+5CO=5CO_2+I_2$.

The method of Fodor, based on the reduction of palladious chlorid by carbon monoxid, is much better for the examination of carbon monoxid in blood. The reaction is expressed by the equation: $PdCl_2+CO=Pd+2HCl+CO_2$. For the examination of the blood, 5 c.c. are diluted with 20 c.c. of water in a large test tube of 80 c.c. capacity; a small piece of sodium hydroxid is then added to aid in the expulsion of carbon monoxid. A tube containing 10 c.c. of palladious chlorid precedes the tube containing the blood to remove the carbon monoxid from the laboratory air. A third U tube following the tube containing the blood contains a solution of lead acetate, and a fourth tube contains dilute sulphuric acid. The chain of tubes is completed by the addition of three U tubes containing a solution of palladious chlorid.[38] The test tube containing the blood is heated in a water bath to 90 C., while a gentle current of air, previously drawn through the tube of palladious chlorid, is conducted through the chain of tubes at the rate of 300 c.c. per hour for four hours. If carbon monoxid is present, the palladious chlorid is reduced, and a black precipitate of palladium will be deposited. The reduced palladium is collected on a filter paper, washed with water and dissolved in hot nitrohydrochloric acid. The U tubes after washing with water will have a small amount of palladium adhering to the sides. This can be dissolved in the hot nitrohydrochloric acid and added to that dissolved from the filter paper. The solution is evaporated on the hot water bath, taken up with strong hydrochloric acid three or four times to remove all traces of nitric acid. The residue is dissolved in water and titrated with a solution of potassium iodid containing 1.486 gm. to the liter. The diluted palladium chlorid solution is heated on the water bath before each addition of the potassium iodid solution. A brown precipitate of palladious iodid is filtered off and the operation is repeated until the addition of potassium iodid fails to produce a brown cloudiness. Each cubic centimeter of the potassium iodid solution represents 0.1 c.c. of carbon monoxid. In case the blood contains only a small amount of carbon monoxid, as is demonstrated by the tannic acid and other color tests, 20 c.c. of the blood are used in a small Erlenmeyer flask. When it is desired to report the saturation of the blood after obtaining the percentage of carbon monoxid by volume, one can use the relation x: 20, since a saturated blood will hold in combination 20 per cent. by volume of carbon monoxid.

33. For a more extended description of the spectroscopic examination and color plates, see Peterson and Haines' text, Legal Medicine and Toxicology, 1904, **11**, 658.
34. Haldane: Jour. Physiol., 1895, **18**, 430, 463; 1896, **20**, 521.
35. Nicloux: Compt. rend. Acad. d. sc., 1898, **126**, 746.
36. Fodor: Deutsch. Vrtljschr. f. off. Gesundhtspfl., 1880, **12**, 377.
37. Seidell: Jour. Indust. and Engin. Chem., 1914, **4**, 321.

38. The commercial salt is dissolved in hydrochloric acid, with the addition of nitric acid, evaporated to dryness on the waterbath, moistened with hydrochloric acid, dried, taken up with a small amount of water and again dried to free it from excess acid. The residue is then made up to volume so that 500 c.c. will contain 1 gm.

Helping the Crippled Soldier to Select an Occupation.—A great aid in helping a soldier to decide about his future is acquaintance with the records of other men with similar physical handicaps who have made good—men who have been trained and who are now holding jobs at attractive wages. In addition, such practical results lend plausibility to the expectations in prospect which are being held out to him. A difficulty, however, is found in the abnormal premium on industrial labor in war time. Even a disabled man may be able to go out and earn seven dollars a day in a munition factory. This constitutes a very potent present counter attraction to representations of moderate but permanent employment after a course of training. If he makes the opportunist choice he will, on the return of employment conditions to normal, be reduced to the status of a casual laborer, perilously near the verge of mendicancy. No pains should be spared to prevent this eventuality. Care should be taken that the representations to the man while encouraging, should in the main be accurate. Workers with the crippled soldiers should not be misled by reports of extraordinary success in isolated cases. The men will, sooner or later, learn the truth, which will tend to discredit the veracity of the vocational officials.—Douglas C. McMurtrie: The War Cripple, Columbia War Papers.

CARCINOMA OF PROSTATE

AN IMPROVED TECHNIC FOR RADICAL EXCISION WITH PRESERVATION OF URINARY CONTROL *

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BALTIMORE

In 1905, I presented a radical operation[1] for the cure of cancer of the prostate, and showed by an

Fig. 2.—Opening up the space on each side of the central tendon by blunt dissection.

exhaustive study of a large number of clinical cases that the disease was far more common than usually supposed. At that time sixty-eight cases of carcinoma had been encountered in five years, during which time 250 cases of benign hypertrophy were seen, making 21 per cent. of carcinoma. Since then, there have been numerous confirmatory publications. The statistics of Oliver Smith give a proportion of 16 per cent.; of Davis, 20 per cent.; of Kummell, 20 per cent.; Pauchet, 20 per cent., and Mullin, 25 per cent. Wilson and McGrath, studying 469 specimens removed by prostatectomy at the Mayo Clinic, found that 15.5 per cent. were cancerous. These confirmatory statistics show that cancer of the prostate is a very common disease, and that it presents a serious problem to the surgeon, especially as the importance of early diagnosis and radical excision has been conclusively demonstrated.

My reports of cases in which I had carried out my radical operations showed conclusively that radical cures may be obtained; but the fact that all of these patients suffered with incontinence during the day caused many surgeons to oppose the operation. Thus Judd, in 1913, said that he considered the incontinence an insuperable objection to the operation. During the past three years, I have greatly improved the technic of the operation, so that now it can be carried out without producing incontinence, thus removing the only possible objection to the procedure, which, in my opinion, is indeed a radical curative operation of great value.

The patient is placed in the exaggerated lithotomy position on the Halsted perineal board or some table giving an equally good position (and there are few that do), the penis injected with 5 per cent. argyrol for antiseptic purposes, and a No. 24 sound passed as far as the anterior portion of the prostatic urethra. The perineum is then cleaned up with tincture of iodin, towels are placed, and an inverted V perineal incision made, as in the operation for simple hypertrophy of the prostate, but a little longer on each side, as shown in Figure 1.

After the incision has been carried through the fat and subcutaneous fascia, the space on each side of the central tendon, bounded anteriorly by the transversus perinei muscle, posteriorly by the levator ani, and externally by the ischiopubic ramus, is opened up by blunt dissection, as shown by Figure 2. The bifid tractor is then introduced, and after division of the central tendon (Fig. 3) and the recto-urethralis muscle close to the bulb, the membranous urethra is exposed, incised longitudinally on the sound, and the edges of the mucous membrane picked up with non-

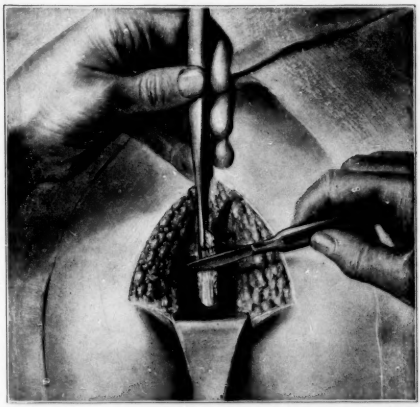

Fig. 3.—Bifid retractor inserted; division of central tendon.

crushing clamps, as shown in Figure 4. The prostatic tractor, Figure 5, is then introduced[2] and opened out ready to draw the prostate down into the wound. The next procedure is to divide the posterior layer of Denonvillier's fascia at the apex of the prostate on each side, thus exposing the anterior layer of Denonvillier's fascia, which forms the posterior cover-

* From the James Buchanan Brady Urological Institute, the Johns Hopkins Hospital.

* Owing to lack of space this article has been abbreviated in THE JOURNAL by omission of some of the illustrations. The complete article appears in the author's reprints.

1. Described first in the Johns Hopkins Hospital Bulletin, 1905.

2. Many incorrect models, much too rectangular and difficult to introduce, are on the market. The approved models, such as are shown in Figure 20, present a more tapering point, the bend is not so square and they are very easy to introduce, thus doing away with the necessity of the many modifications which have been devised.

ing of the prostate and seminal vesicles, and undoubtedly has much to do with the prevention of car-

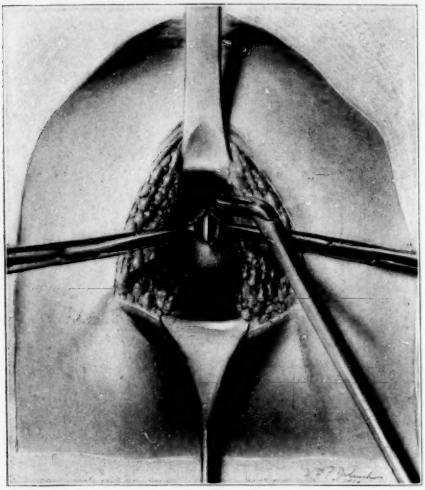

Fig. 4.—Membranous urethra exposed, incised longitudinally on sound, and edges picked up with noncrushing mucosa clamps; prostatic tractor ready for insertion.

cinoma of the prostate and seminal vesicles from traveling backward toward the rectum and adjacent

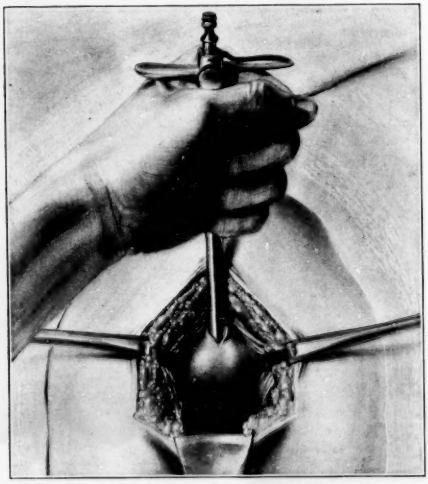

Fig. 5.—Tractor has been inserted and opened; posterior surface of prostate exposed showing anterior layer of fascia of Denonvillier.

structures. Passing upward between these two layers of Denonvillier's fascia, the posterior surface of the prostate and seminal vesicles is freed, after which the lateral surfaces of the prostate are exposed by blunt dissection, the operator taking care to keep within the anterolateral prostatic fascia, separating it from the prostate. The great plexus of blood vessels, and the important nerves of the perineum lie in front of this fascia so that by stripping it up from the prostate, it is easy to avoid hemorrhage and not only preserve the vascular supply, but also the perineal nerves, including that of the external sphincter. The modification of my operation which I have adopted during the past three years, and which has done away with incontinence, consists in respecting this anterolateral fascia, and passing between it and the lateral and anterior aspect of the prostate, as indicated by the dotted line in Figure 6.

After this fascia has been freed by blunt and sharp dissection on each side, the next step is to divide the membranous urethra just in front of the prostatic tractor, as shown in Figure 7, the operator again being

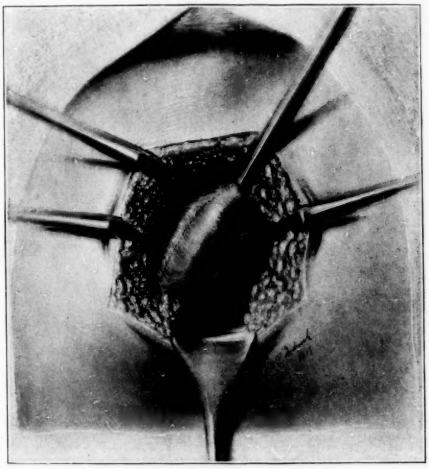

Fig. 6.—Dotted line shows where dissection should proceed in order that the operator keep between the anterolateral fascia and lateral aspect of prostate.

careful to keep beneath the anterolateral prostatic fascia, which is readily stripped up, exposing the anterior surface of the prostate until the prostatovesical juncture is reached, as shown in Figure 8. During this procedure the prostate, freed laterally, posteriorly and anteriorly, is gradually drawn outward, bringing the bladder well down toward the operator, who then plunges a scalpel through the bladder wall close to the upper limit of the prostate and enlarges the opening into the bladder by scissors on each side, thus exposing the interior of the bladder, and particularly the trigon, as shown in Figures 8, 9 and 10. The dotted line here indicates the next step, namely, the curved incision across the trigon, which passes about 1 cm. below the ureteral orifices on each side and includes the mucosa, submucosa and muscle (Fig. 11). The bladder is then pushed upward, as shown in Figure 12, thus exposing the tissues covering the anterior surfaces of the seminal vesicles and vasa

deferentia, which become more and more exposed as the blunt dissection proceeds (Fig. 13). The operator avoids going too close to the seminal vesicles and vasa deferentia, freeing these structures *en masse*, and ligating the fascia containing the blood supply at the upper end of the seminal vesicles on each side, as far distant above the prostate as possible. The vas deferens is then isolated, freed well above the tip of the seminal vesicle, drawn down, clamped and divided. The same procedure is repeated on the other side, thus freeing the carcinomatous mass, which is removed in one piece, composed of the entire prostate with its capsule, and urethra, a small portion of the membranous urethra, a cuff of the bladder, including most of the trigon, both seminal vesicles and 6 or 7 cm. of the vasa deferentia, with intervening and surrounding tissues. The mass removed is shown in Figures

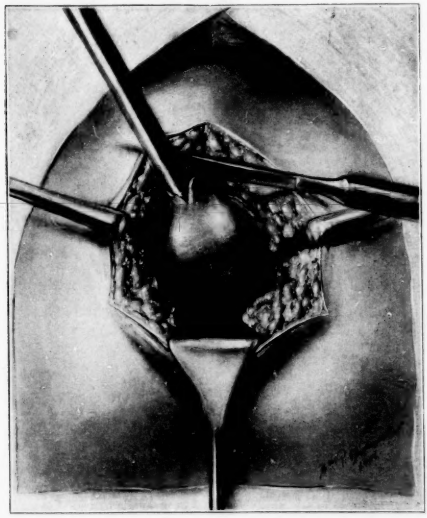

Fig. 7.—Division of membranous urethra.

21, 22 and 23, which are taken from the actual operative specimens.

The problem next confronting the operator is to draw down the bladder and form an anastomosis between it and the stump of the membranous urethra at the triangular ligament. The vesical opening is usually about 3 inches in diameter, and about 3 inches distant from the urethra to which the bladder is to be sutured; but by grasping the anterior wall and drawing it downward, no difficulty is experienced in performing the anastomosis, as shown in Figure 14. The sutures are interrupted and of chromic catgut tied externally and including both mucous membrane and muscle. As a rule, about ten such stitches are required, but no difficulty is experienced in obtaining an excellent anastomosis around the small retained urethral catheter, as shown in Figure 15. There remains then a longitudinal opening in the bladder which is easily closed by continuous chromic catgut suture, as shown in Figures 16 and 17. In performing the anastomosis, I have recently used my new boomerang needle holder (Fig. 24), and have found

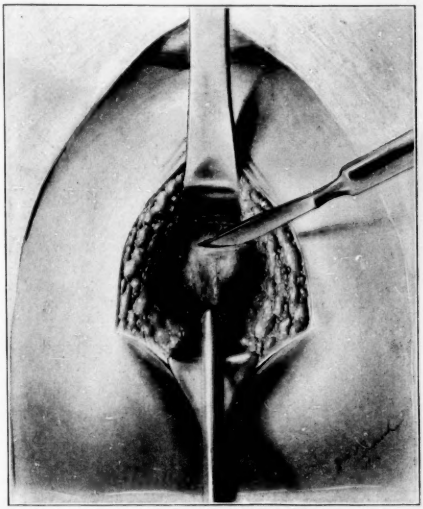

Fig. 8.—Entire prostate turned down and the bladder wall incised transversely just above upper limits of the prostate.

it very efficient, particularly for deep work. The rest of the operation consists in placing a small iodoform gauze drain behind the line of sutures, drawing the levator muscles together with chromic catgut (Fig.

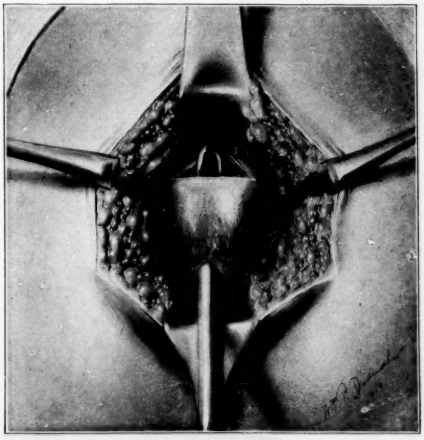

Fig. 9.—Blade of tractor protruding through incision in bladder wall.

18), and closing the skin with a continuous subcuticular chromic catgut suture, as shown in Fig. 19. The catheter is fastened to the glans penis with adhe-

sive plaster and a subcutaneous infusion given at the end of the operation (before if advisable). By preserving the anterolateral prostatic fascia, and thus

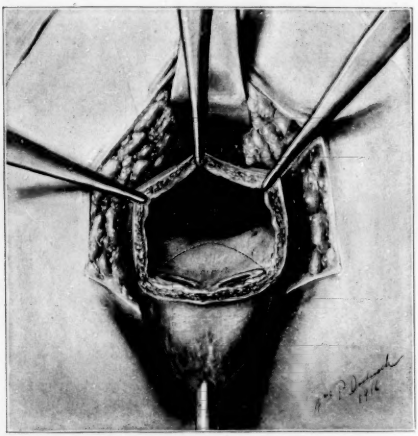

Fig. 10.—Bladder incision enlarged: Dotted line indicates course of completed incision, passing across trigon about 1 cm. in front of ureteral orifices.

avoiding hemorrhage from the plexus of Santorini, and by carefully clamping and ligating bleeding points when the bladder is divided and the seminal vesicles freed from deep adhesions, pronounced hemorrhage is avoided, and the operation is practically free from danger and is not exceedingly difficult.

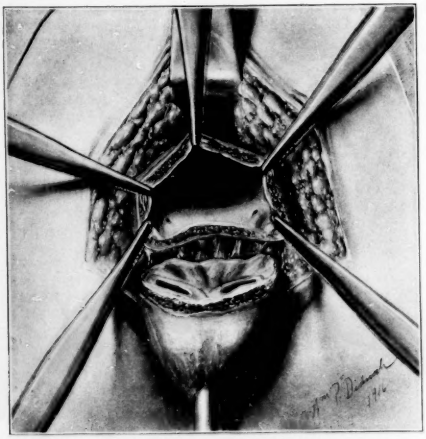

Fig. 11.—Incision in bladder wall completed, the prostate now being attached only by the seminal vesicles and vasa.

AFTER-TREATMENT

The treatment during the convalescence is very similar to that employed after perineal prostatectomy, namely, water in abundance, subcutaneously if necessary, hexamethylenamin, and daily irrigation of the bladder with small amounts of boric acid solution through the retained urethral catheter, which is allowed to remain in place eight or nine days. The gauze packs are removed in two or three days, and no further packing is introduced. In nearly all cases there is leakage for a week or so, but in almost all cases the wound heals completely within the course of a month, and no cases of permanent urinary fistulas have resulted.

My experience in thirteen cases shows that it is not necessary or even advisable to pass sounds or other urethral instruments, as stricture does not occur at the point of anastomosis, and dilations are therefore unnecessary.

RESULTS

In the first eight cases there was incontinence when the patient was on his feet, and more or less constant dribbling; but when the patient was in a recumbent posture, and particularly when in bed, there was

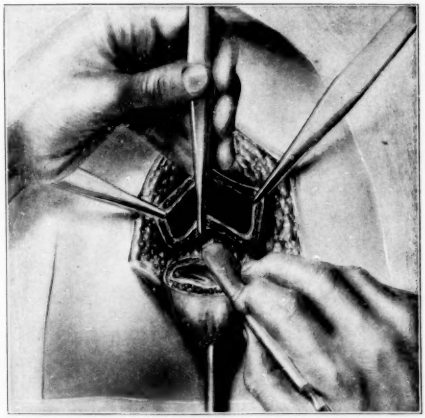

Fig. 12.—Freeing vesicles and vasa surrounding tissues from posterior aspect of bladder wall.

usually no incontinence and the bed was not wet, interval urination of fairly normal character occurring at this time. One patient died of shock immediately after the operation. In the last four cases in which the perfected technic described in the foregoing was carried out, incontinence has not been present, and some of these patients are able to retain urine as long as six or seven hours, they void freely without difficulty, have excellent sphincteric control, and have practically normal urination. One patient, operated on over three years ago, is able to sleep all night undisturbed, and voids large amounts of urine at infrequent intervals and in a normal manner. The other cases are more recent, but give evidence of just as satisfactory results.

Success in obtaining urinary control after this extensive radical procedure is undoubtedly due to the new scheme of carefully preserving the anterolateral prostatic fascia, and thus avoiding injury of the nerve and blood vessels which lie in front of it and which

supply the triangular ligament and external sphincter with vascularity and innervation.

Nevertheless, it is interesting to note that normal micturition can exist even when the entire prostate, with the prostatic urethra, membranous urethra and almost all of the trigon and cuff of the bladder are removed, and the defect restored by plastic anastomosis between the bladder and the stump of the membranous urethra. It is also interesting to note that the external sphincter is able to functionate sufficiently to prevent incontinence, even when the other sphincteric structures of the prostate and bladder have been removed.

At the operation, the lower ends of both ureters were intentionally excised for a short distance in Case 2, the operator thinking that the disease had reached this point. This was a mistake, as it was found afterward that the induration was inflammatory in character. In Case 5 the lower end of the left ureter was involved, and had to be excised. This patient died of shock, and necropsy revealed that,

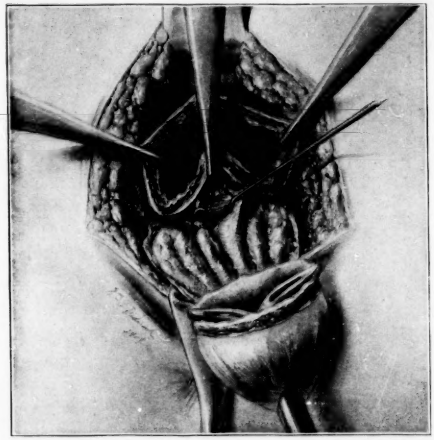

Fig. 13.—Freeing of upper limit of seminal vesicles; vascular adhesions in this region have been clamped and ligated; division of vas.

while the seminal vesicles were free, the disease had traveled into the peritoneal cavity. The cystoscopic evidence of elevation of the whole trigon should evidently militate against the radical operation, as shown by this case. In Case 3, the lower end of the left ureter was unintentionally divided with scissors when the division along the left lateral wall of the bladder was made. Anastomosis was made high up, and no inconvenience resulted. (The patient lived three years). In nine cases, the operation was carried out with apparent success and without shock, but a study of the specimen removed showed carcinoma near the upper limit in two patients (Cases 1 and 3).

In Case 2, the patient died nine months after the operation as a result of traumatism and infection, caused by an attempt to remove a stone adherent to a silk suture. Necropsy revealed a very small area of recurrence, 1 cm. in diameter, back of the bladder. In Case 3, the patient lived over three years in comfort, but necropsy revealed metastases in various parts of the body, the bladder and urethra, however, being free from recurrence. In Case 1, in which the

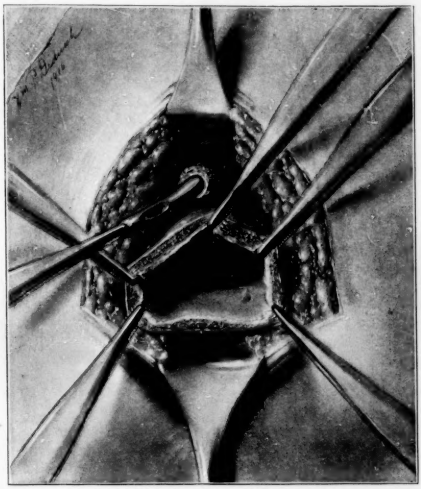

Fig. 14.—Catheter inserted in urethra preparatory to urethrovesical anastomosis.

patient died six weeks after the operation from ascending renal infection, as a result of the intentional but injudicious division of the two ureters, extremely

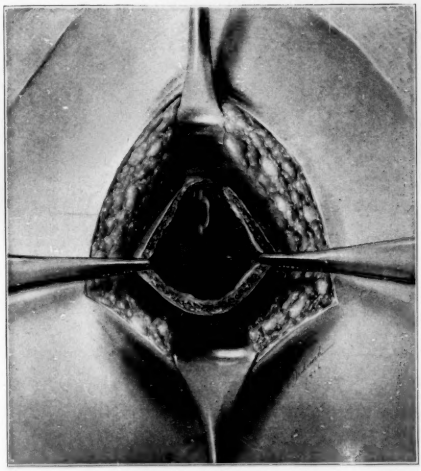

Fig. 15.—Beginning of anastomosis; sutures are of interrupted chromic catgut, tied externally.

careful examination of all the pelvic tissues at necropsy, with numerous sections taken for microscopic study, failed to reveal any evidence of carci-

noma, and it seems probable that the disease had been completely eradicated. Five patients have apparently been cured. One patient died from angina six and a half years after the operation, and necropsy revealed no recurrence of the cancer. Another patient is well five and a half years after the operation. In both of these cases the operative specimens disclosed that the disease had not reached the upper line of excision. Three patients operated on two and a half years ago are alive and apparently well. Two cases in which operation was performed within the past month are so recent that the ultimate result is not known, although the prospects are excellent.

In Case 2, there was incontinence when the patient was on his feet, but when in bed and in a sitting posture there was fair control. In more recent operations control has been much better; in Case 9, there was hardly any incontinence, and in Cases 10, 11 and 12, no incontinence at all occurred; the patients voided naturally with normal force, and only three or four times by day and none at night. In Case 13, the patient is still in the hospital. This improvement in the prevention of urinary incontinence has been accomplished by using great care to elevate the anterior layer of the pelvic fascia, which encloses the lateral and anterior aspects of the prostate, with the nerves and blood vessels of that region. This not only obviates hemorrhage, but preserves the vascular and nervous supply of the triangular ligament and external sphincter, and thus prevents incontinence. It removes the one objection to the operation.

As a result of the experience gained in these thirteen cases, it may be said that the operation should

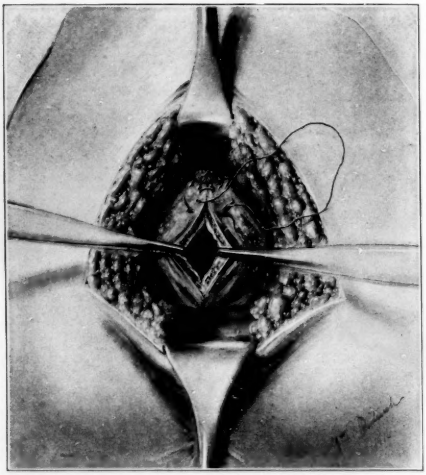

Fig. 16.—Closure of remainder of vesical incision longitudinally, with a continuous suture.

not be attempted when the carcinomatous infiltration extends more than a short distance beneath the trigon (as determined by the cystoscopic examination with the finger in the rectum and the cystoscope in the urethra), or when the upper portions of both seminal vesicles are involved, or in cases in which there is an extensive intervesicular mass and indurated lymphatics or glands, or when involvement of the membranous urethra or muscle of the rectum shows that the disease has manifestly progressed too far.

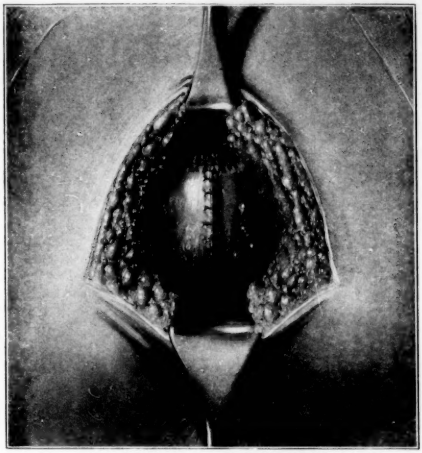

Fig. 17.—The anastomosis completed.

Further, it may be said that the corners of the trigon containing the ureteral papillae should be left intact with sufficient tissue below them to enable proper suturing and to leave their openings free from constriction, 1 cm. above the wound; that the hemorrhage should be carefully checked (by hugging the capsule, injury of the periprostatic plexus being avoided); that silk should never be used to hold the tissues together in making the urethrovesical anastomosis; that when the operation is attempted early it can be performed without much danger or great difficulty, and with excellent chance of cure; that only seven of the ten cases recorded in this paper were suitable for the radical operation, and that in all of these the disease was apparently completely removed. It seems probable that radical cures have been obtained in at least five cases. Only two with definite recurrence have been found.

Radical Cures by Partial Prostatectomies.—In two cases, in which small nodules of cancer were completely removed in the course of perineal prostatectomy for supposed benign hypertrophy, there has been radical cure for eight and fifteen years, and therefore they deserve to be mentioned.

Subtotal Radical Excision of Carcinoma.—This operation is employed with a view to the conservation of the sphincters, and most of the urethra and capsule. The operation has been carried out in six cases. The first case showed a well circumscribed area of carcinoma in the right half of the posterior capsule of the prostate. The lateral lobe lay in front of this and showed an adenomatous hypertrophy, which was also present in the left and median lobes of the prostate. The area was so well circumscribed that I did not perform the typical radical operation, but contented

myself with removal of the right half of the prostate with its capsule, the right lateral wall and floor of the urethra, and the suburethral tissues with ejaculatory ducts and lower portion of the right seminal vesicle and vas deferens, all in one piece. The left lateral and median lobes were then excised as usual, the roof, left lateral wall of the urethra and vesical sphincter being preserved.

The result was splendid. The perineal fistula closed on the ninth day, and the patient was discharged on the fourteenth day. The report by letter five years later said: "entirely well, urination normal."

Four other patients have been operated on by a similar technic, also with excellent results, now four years in one case, and the method can be recommended in cases in which a small nodule of carcinoma well circumscribed and surrounded by healthy tissue is present. Great care must be exercised, however, in choosing cases, and the radical operation is generally the safer to employ.

Typical Conservative (Partial) Prostatectomy.—In seventy-five cases, this operation was done, with no idea of radical cure, but merely to remove the obstruction to urination. In two cases, however, a small nodule of carcinoma was completely excised in the removal of the lateral lobes.

In many cases (65 per cent.) the results in removing obstruction have been just as satisfactory as in benign cases, the patient generally having a good functional result as long as he lives.

Radium.—In the last two years we have used radium very effectively in cases of advanced cancer of the prostate and seminal vesicles, combining it

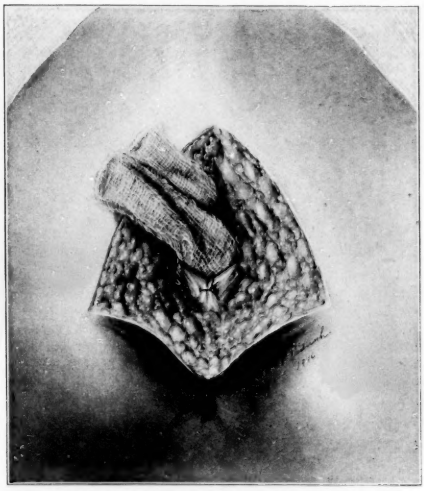

Fig. 18.—Gauze drainage passing down to site of anastomosis, one suture bringing together fibers of levator ani.

with the use of perineal prostatectomy or the punch operation in case obstruction persisted, with some excellent functional results. Radium unquestionably has marvelous effect in reducing the carcinomatous infiltration of the prostate by the new methods which I have presented,[3] but the cases reported are as yet too recent to permit claims of absolute cures. We have, however, in radium an agent of undoubtedly great potency and value in urology.

CONCLUSIONS

1. Early diagnoses are imperatively needed.
2. The radical operation is a very satisfactory surgical procedure.

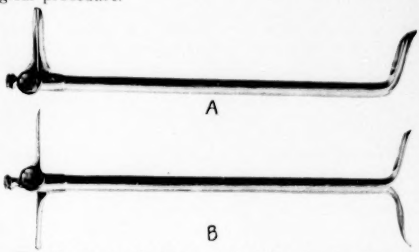

Fig. 20.—*A*, prostatic tractor closed, before insertion into membranous urethra; *B*, prostatic tractor opened after entering bladder.

Fig. 24.—Boomerang needleholder.

3. Excellent functional results may be obtained by preserving the anterolateral prostatic fascia and the blood vessels and nerves above it, as shown in my new technic.

4. Radical cures have probably been obtained in over 60 per cent. of the cases, even though some were decidedly unpromising. Marked induration should always be suspected even when occupying only a small area, and early radical cure carried out if the disease proves to be cancer.

3. Young, H. H.: The Use of Radium in Cancer of the Prostate and Bladder, THE JOURNAL A. M. A., April 21, 1917, p. 1174.

Suicides in New York City.—More suicide in New York City since the outbreak of the European War in 1914, illuminating gas the most frequent method, infrequent use of firearms by women committing suicide, a decrease in the use of poison as a means of ending life, these are some of the interesting facts disclosed by a statistical study of suicides in New York City. Perhaps the one fact that stands out most prominently in the accompanying tables is the greater frequency of suicide among men than women; about three times as many men commit suicide as women. Does this indicate a greater feeling of responsibility on the part of men, a greater bravery on the part of women, bravery which enables them to bear the trials and disappointments of life with greater fortitude? Considered in conjunction with the fact that during periods of financial depression suicides are more frequent, indicating that financial reverses are the most common cause of suicide, the conclusion seems justified that the incidence of suicide is greater among males because on men usually falls the worry of financial reverses. The entrance of women into business and the professions, thus bringing them a fuller share of financial responsibility, should, if this be the chief determining factor, increase the female rate, and it will be interesting, as years go by, to note the effect of changing conditions on the incidence of suicide among females.—S. W. Wynne, M.D., *Monthly Bulletin*, New York Department of Health.

THE ETIOLOGY OF PERTHES' DISEASE

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NEW YORK

The etiology of osteochondritis of the hip, generally known as Perthes' disease, has been the subject of much speculation ever since the condition was recognized as a clinical entity several years ago. Traumatism, obscure infection and perverted metabolism have each had their advocates. Tuberculosis has been eliminated because the joints recover with good function, and syphilis has been excluded because Wassermann reactions have been negative.

Notwithstanding the results of laboratory tests, I desire to advance the opinion that this affection of the hip, which occurs with considerable frequency in children, is the result of inherited syphilis.

In the course of an extensive study of orthopedic conditions produced by congenital syphilis, involving the treatment of about two hundred cases of various types, several well developed instances of Perthes' disease have come under observation. Two of them presented symptoms of unusual spasm and limitation of motion, one having acute pain on any attempt at passive movement. The symptoms in these two cases cleared up very rapidly under mixed treatment, and the other patients showed improvement in their general condition rather more quickly than would be expected without medication.

While the course of five or six cases under antispecific treatment proves nothing very definite, there

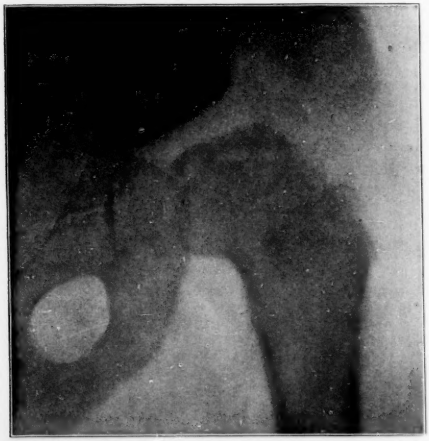

Fig. 1.—Perthes' disease. In this patient the acute symptoms that had persisted for over two years in spite of immobilization cleared up rapidly under mixed treatment without fixation.

are several arguments to be offered in favor of the syphilitic origin of these lesions. First, the negative Wassermann must be disposed of, and that is not difficult, for it is common experience that subjects with frankly syphilitic bone lesions, when a family history of syphilis exists and when the pathologic process disappears under mixed treatment, give a negative Wassermann reaction. Several cases of this kind have been observed during my recent studies. Therefore, it

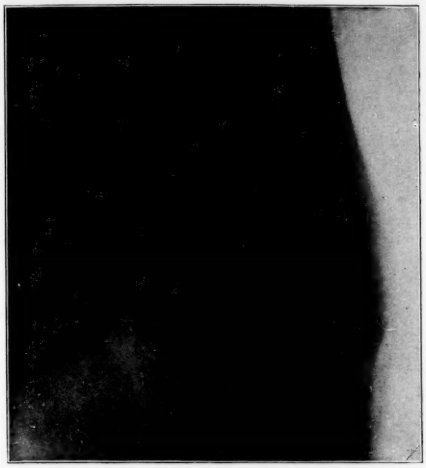

Fig. 2.—Perthes' disease. Acute pain and limited motion had been present for a year and three months, and under mixed treatment the condition disappeared within ten weeks.

may be contended that a negative Wassermann reaction in Perthes' disease does not exclude syphilis. Secondly, the pathologic findings described by Perthes coincide with one of the most common expressions of bone syphilis in children, namely, osteochondritis. Although the joint lesions of congenital syphilis have been much neglected, every author who has written on syphilis of the bones and joints has referred to osteochondritis as it appears in the region of the knees, wrists and ankles. As a matter of fact, many cases of joint enlargement ascribed to rickets are nothing more nor less than syphilitic osteochondritis.

Then again we find in subjects with Perthes' disease dental evidence of inherited syphilis. This does not mean hutchinsonian teeth necessarily, but more frequently the erosions and malformations of the first permanent molars and other units that have been so well described by Cavallaro, or anomalies of spacing of the incisors, to which I recently called attention.[1] These dental signs indicate that spirochetes were undoubtedly present in the body during the period of gestation, and it is a reasonable conclusion that they may have persisted to cause the condition known as Perthes' disease, just as they may persist to cause other forms of bone lesions in children.

Finally, the course of osteochondritis of the hip is similar to that of many other syphilitic joint conditions in that the destructive process is self limited and that there is a tendency to more or less complete restoration of function.

In view of the foregoing facts it would appear that treatment of Perthes' disease on the hypothesis that it is of syphilitic origin is worthy of further investiga-

1. Roberts, P. W.: New York Med. Jour., 11, 1917.

tion, and it is for the purpose of stimulating interest in the subject that this argument is presented. In the writer's experience all syphilitic bone and joint conditions improve more rapidly when the dose of potassium iodid is carried to the point of tolerance than when dependence is placed on a routine dose of moderate size, and it is suggested that this technic be used when medication is adopted.

To illustrate the effect of mixed treatment, the histories of two cases under observation on the service of Dr. H. L. Taylor, at the Hospital for Ruptured and Crippled, are appended with roentenograms that confirm the diagnosis.

REPORT OF CASES

CASE 1.—The patient, Ida G., aged 8 years, was suffering pain and limped in July, 1914. Night cries were noted at that time. She was treated at two different clinics for tuberculosis of the right hip. The limb was placed in a plaster cast for a year and four months. The plaster cast was then removed for a month. Pain, restlessness at night, restriction of motion and spasm reappeared and another plaster spica was applied at the Hospital for Ruptured and Crippled, Dec. 1, 1915. This treatment was continued until March 21, 1917, when the patient came under my observation. The plaster cast was removed; the hip was found to be stiff and extremely sensitive. The teeth indicated congenital syphilis, and the child was therefore placed on mixed treatment and the spica fixation discontinued. Two weeks later the patient reported for examination. Pain and spasm had disappeared. There was free rotation and considerable flexion without discomfort. From that date there has never been any return of pain. Improvement has continued, and on Oct. 1, 1917, there was flexion of the thigh to 45 degrees inside of a right angle; free rotation; no limp, and the child was extremely active. The roentgen-ray findings were typical of Perthes' disease (Fig. 1).

CASE 2.—The patient, Elsie G., aged 11 years, complained, in February, 1916, of pain in the right leg; the patient limped, and tired easily. She came under observation, May 2, 1917. There was flexion of the thigh to a right angle and full extension, but rotation in extension was limited. Rotation in flexion was blocked and abduction was extremely limited. Pain and spasm occurred on attempt to force motions and there was a marked limp in walking. The teeth indicated congenital syphilis, and the patient was put on mixed treatment without any protection to the hip. A month later there was flexion to 45 degrees inside of a right angle and some rotation with the thigh flexed. There was no pain, and the child was much more active and felt better. July 18, 1917, there was almost normal flexion and free rotation with thigh flexed. There was no pain and no limp. The roentgenograms revealed typical Perthes' disease (Fig. 2).

In Case 2 the symptoms had existed a year and three months and disappeared under suitable medication in ten weeks.

576 Fifth Avenue.

Quadricentennial of Dodoneus.—The *Nederlandsch Tijdschrift voor Geneeskunde* of June 30 was devoted entirely to historical sketches of Rembertus Dodoneus, a great physician and botanist of the sixteenth century. His works include the "Cosmographia," "History of Plants," "Praxis Medica" and the "Cruydt-boeck," in which he contributed much to the materia medica of western and northern Europe which had been neglected by previous writers. He was offered the post of body physician to the king of Spain, as successor to Vesalius, but declined. Later he accepted a similar position with the emperor of Austria until he was called to the chair of clinical medicine at the University of Leyden.

SYSTEMATIZATION OF A SURGICAL SERVICE

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In modern industrial organization, the highest degree of efficiency is attainable only by intense systematization. In hospital management the interdependence of efficiency and systematization should be recognized. Yet, this conception has been slowly grasped, reluctantly accepted, and compromisingly adopted by the medical profession. Although a mechanical and inelastic system is not suggested for the care of the sick, the advantages of a systematic plan of service, so far as this is consistent with the development and application of medical skill, are striking.

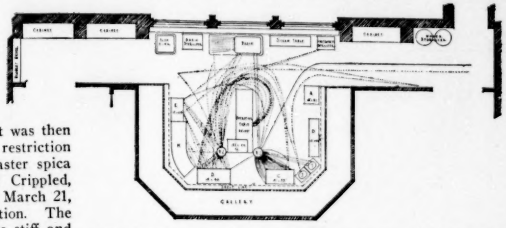

Fig. 1.—Movements of nurses during an operation for appendicitis: *N-1*, head instrument nurse; *N-2*, sponge nurse; dotted lines indicate steps taken by nurses during the operation; lines without arrows indicate "round trips," those with arrows indicate "one way trips."

Until a few years ago, hospital services were relatively small, diagnostic methods simple, the staffs small, and the turnover slow. Consequently the details were simple, comparatively few, and readily kept in mind. The treatment of the individual patient was, in general, conscientious and satisfactory.

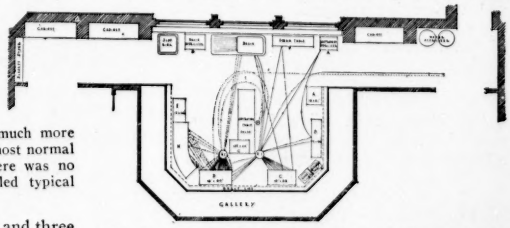

Fig. 2.—Steps taken by nurses during an operation for inguinal hernia. Similar in plan to Figure 1.

With the large service of the present day, however, the complicated methods of diagnosis, the large staffs and the rapid turnover, systematization has become essential. By means of it, the time and the energy of the staff are conserved; moreover, other things being equal, thoroughness in the study and treatment of each case is better insured, and oversights and mistakes are less in proportion to the degree of systematization.

The essentials for systematization are supervision by a permanent director and specialization in details by other members of the staff. Our service has been developed with these objects in view.

The surgical department of the New York Hospital consists of two independent divisions. They are similar in organization. We are to consider, however, only the second surgical division.

The staff of the division consists of an attending surgeon, senior associate surgeon, junior associate surgeon and assistant surgeon. Gradation is important in that it eliminates questions of authority and prerogative.

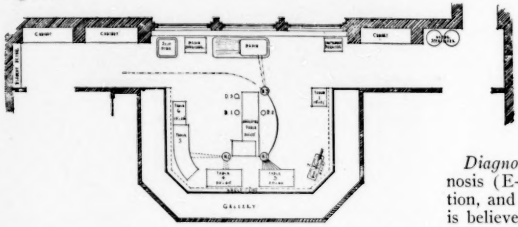

Fig. 3.—Marked reduction in movements and labor of nurses due to the introduction of simplified methods in the operating room. New and larger tables installed. Diagram was made during an operation for appendicitis.

The attending surgeon is in charge and is responsible continuously. The two associates, while equal in rank so far as hospital appointment is concerned, are graded for work on the division. When the attending surgeon is absent, the senior associate takes his place; the junior associate assumes the work of the senior, and the assistant acts as junior associate. Under this plan, the policy of the division is unvarying, because in the absence of the attending surgeon, the routine and regulations are enforced by the associate, who acts in his stead and not independently. A concerted and unchanging policy is thus possible. But such a plan demands the subordination of the individual to the welfare of the service; associates and assistants must serve the hospital as members of a team rather than as individuals.

Inspection rounds, followed by conference with free discussion, are held once a week, and a follow up or end-result system has been established. This routine furnishes the chief with an accurate knowledge of the work of the division, unifies the ideas of the staff, develops a harmonious spirit among them, and checks the immediate and late results.

The weekly inspection rounds are conducted by the attending surgeon, with the staff and student clerks. Practically every case is dressed, the treatment of the wounds is discussed, and permament records of the condition of each patient and wound are made on the bedside charts. Following the rounds, there is a conference which is attended by the entire staff, including attending surgeons and interns. The conference embraces:

1. A review of the work of the past week, which includes: (*a*) operative results; (*b*) diagnostic errors, and (*c*) late results.

2. Report of standing staff committees (outpatient department, student clerks, follow up system, operating room technic, clinical records, etc.).

3. Reports on special subjects assigned by the chief to a staff member; or a review of the literature bearing on some unusual case on the service.

We will consider these topics in detail.

Operative Results.—Unfavorable results and unfavorable developments are analyzed: (1) deaths; (2) infections, and (3) other postoperative complications, such as hematomas and pneumonias. An effort is made to determine the cause of each unsatisfactory development. As advised by Codman, the poor results are tabulated into:

1. Errors due to lack of technical knowledge or skill (E-s).
2. Errors due to lack of surgical judgment (E-j).
3. Errors due to lack of diagnostic skill (E-d).
4. The patient's enfeebled condition (P-d).
5. The patient's unconquerable disease (P-d).
6. The patient's refusal of treatment (P-r).
7. The calamities of surgery, or those accidents and complications over which we have no control.

Diagnostic Record of the Week.—Errors of diagnosis (E-d) are referred to the operator for explanation, and a general discussion of the case follows. It is believed that such an analysis and discussion leads to greater care in arriving at a correct and exact diagnosis before operation, emphasizes the causes of diagnostic errors, and suggests means for avoiding them.

To obtain an exact diagnostic record, we employ the following method: The anesthetist, before the beginning of each operation, notes the anteoperative diagnosis on the anesthesia chart. The operator is entitled to record his diagnosis up to the time of making his initial incision; after that it cannot be changed. At the end of the operation, a revised diagnosis is recorded.

In cases in which the diagnosis at the close of the operation is still in doubt, as in certain tumors, and in some cases presenting abdominal symptoms in which no lesion has been found, final decision as to the diagnosis is deferred until it is determined by the pathologist's report or by the course of the case.

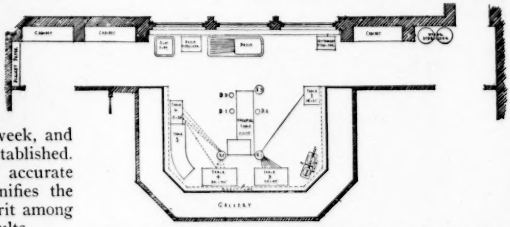

Fig. 4.—Similar in plan to Figure 3. By the elimination of unnecessary steps, the work has been greatly simplified. Diagram was made during an operation for inguinal hernia.

End-Results.[1]—The late results in the cases which have been examined on the previous Sunday morning are analyzed. Those recorded as "fair" and "poor" are discussed, and, if necessary, the original histories of the cases are reviewed. The causes of failures are sought, and measures for avoiding similar failures are considered. The errors or failures are grouped according to the classification described under operative results.

1. The details of our end-result system have been described by Bancroft, F. W.: Bull. Johns Hopkins Hosp., 1916, **27**, 201.

A brief comment on the end-result system is appropriate. The conscientious management of a surgical service demands not only a detailed knowledge of the immediate results of operative treatment, but also the ultimate or end-results. The operative policy of a surgical service is directly dependent on the study and analysis of the late results of operations. If it is found that a certain procedure is not giving permanent relief, the members of the staff will be stimulated to devise means that will improve the results. For example: During the two years in which this system has been in use, it has been found that a certain number of patients operated on for chronic appendicitis have not been relieved of their complaint. Certain members of the staff are now making a careful analysis of all cases diagnosed as chronic appendicitis, with the object of determining wherein lies the fault. Such a study can be made effective only by careful analysis of the end-results of a large series of cases in conjunction with the histories, physical examinations, laboratory data, roentgen-ray records, and operative findings.

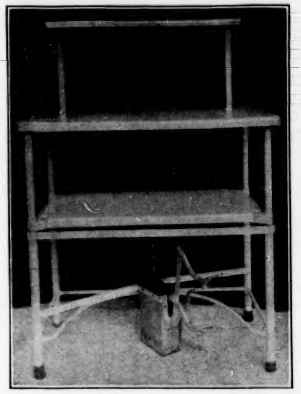

Fig. 5.—New supply table with foot pump. Elevation is used when patient is in the Trendelenburg position. Two tables are in use in the operating room, one each for the instrument nurse and the gauze supply nurse.

A follow up system, to be effective, must be so planned that all patients leaving the hospital are followed for at least one year, and selected patients for a longer period.

All patients on leaving the wards are requested to return for observation at the end of three months; if examination at that time indicates that there is no need for earlier observation, they are requested to report again at the end of nine months. We have been able to obtain the late results in approximately 90 per cent. of our cases.

We cannot emphasize too strongly the credit due to Codman of Boston for initiating the follow up system and bringing the profession to an appreciation of its importance; also to Corscaden of the Presbyterian Hospital, New York, for his extremely efficient method of putting the follow up system into effect. We employ his card system with slight modifications.

Attempts have been made to arrange the work in the wards in such a manner that the maximum attention may be given the patients with the minimum waste of effort. Complete rounds are made daily by one of the staff. Each member of the attending staff has definite days on which he makes morning rounds on all the cases on the division. Patients in the wards are considered as belonging to the division and not to individual members of the staff. In other words, if one of the attending staff refers a case to the service, the patient becomes a ward of the division. Thus, each patient has the advantage of study by the entire staff. No hardship is involved, because no fees are collected for ward patients, except workmen's compensation cases, and the fees for these are collected jointly for the needs of the division.

There is a rule of the division that the operator must examine all patients on the afternoon preceding operation. This, therefore, necessitates the visiting of the hospital every afternoon by one member of the staff.

Three difficulties are often encountered in large surgical services:

1. Delay in ordering and making appropriate laboratory and clinical examinations.
2. Delay in calling the attention of the attending surgeon to very ill patients.
3. Premature dismissal from bed and hospital of patients who have been operated on by the zealous house surgeon who wishes to make room for patients who are to undergo operation.

To overcome these difficulties the following methods have been adopted:

1. An associate has been placed in charge of each ward. It is his duty to visit his ward daily and to see all the patients who are to be operated on, order roentgen-ray and laboratory examinations as indicated, direct and expedite history taking and physical examinations, and note on the chart his diagnosis and suggestions as to treatment. He also supervises the postoperative therapy.

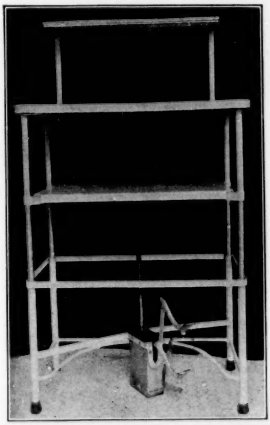

Fig. 6.—Same table as shown in Figure 5, which has been elevated for the Trendelenburg position.

2. A day book is kept on the nurses' desk, with three columns for names: In the first column are noted those patients who have not been operated on;

in the second, patients not doing well or requiring investigation, and in the third column, the names of patients presumably ready for discharge. The attending surgeon can thus learn at a glance the salient facts.

3. Each patient before going home is examined by one of the associates, who writes a discharge note on the chart. This record includes a statement as to the general condition of the patient and the condition of the wound, and a brief summary of the postoperative course. The associate gives the patient a note to the family physician or to the dispensary. In this he describes the operation and convalescence, and suggests treatment. If he considers the patient unable to leave the hospital, he instructs the nurse to keep the patient until further notice. Consequently, it is seldom that patients leave the hospital too soon or in improper condition.

OPERATIVE TECHNIC

An effort has been made to simplify the work in the operating room. The properly trained operating staff should be a well-balanced machine; it is, however, difficult to attain this end. In the average hospital, each member of the attending staff has his individual ideas as to the arrangement of the operating room and of instruments, etc. It often becomes necessary to arrange the room and to plan certain details even of routine operations differently for each man. The lack of uniformity interferes with a fixed policy, leads to confusion, and imposes a greater burden on the helpers. All routine operations should be standardized: the arrangement of the room should be uniform; a given number of instruments should be on the tray, and the same suture materials and instruments should be used. As far as possible, the same incision and procedure should be employed, but unfortunately the vagaries of the human body and the uncertainties of diagnosis require occasional deviations. However, it is possible in most cases to follow a regular system.

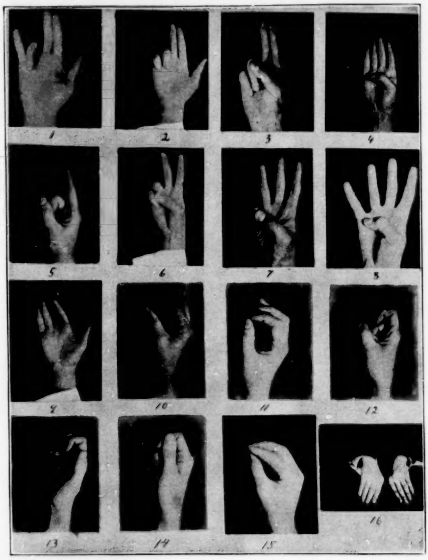

Fig. 7.—Manual signal system for use during operations: 1 *a*, artery clamp; *b*, Allis clamp (intestinal forceps); as artery clamp with wriggling of little finger; *c*, Kocher clamp, as artery clamp with wriggling of thumb; 2 *a*, Towel clip; *b*, Kelly clamp; as towel clip plus wriggling of thumb; 3, ligature; 4, sponge pads; 5, *a*, scalpel, with cutting motion; *b*, straight needle, with rotary motion; 6, *a*, thumb forceps; *b*, scissors, opening and closing fingers; 7, tissue forceps, one and two teeth; 8, tissue forceps, many teeth; 9, sharp retractors; 10, palm down: *a*, large right angle retractors, thumb and index finger; *b*, medium right angled retractors; use middle finger instead of index finger; *c*, small right angled retractors, use ring finger instead of index finger; 11, palm up: *a*, large string pad, thumb and index finger; *b*, medium string pad, thumb and middle finger; *c*, small string pad, thumb and ring finger; 12, *a*, McBurney, small; *b*, McBurney, large; use both index and middle fingers; 13, abdominal retractors; 14, *a*, aneurysm, rotary motion; *b*, cautery, squeezing motion; 15, palm down: *a*, large sponge stick, sponging motion; *b*, curved needle, rotary motion; *c*, small sponge stick, as 15 *a*, but with palm up; 16, towel, spreading motion.

The staff, at the conference, decides on the routine types of operation. Let us take inguinal hernia, as an example: The modified Bassini operation with transplantation of the cord has been adopted; all members of the division use this method; all use the same instruments, sutures and needles. If a member of the staff disapproves the method or of any detail, he must present his criticisms and suggestions at a regular weekly conference.

The chief often assigns the study of a certain type of operation to a member of the staff, who presents his report at a subsequent conference. Discussions at these meetings are often very instructive.

We are making constant efforts to secure simplicity and a safe routine in the operating room. When the effort to systematize this service was begun two years ago, we felt that there was much waste of effort in the operating room work and that certain features of the work were glaringly inefficient. Let us illustrate with one detail: the steps taken by the nurses during an ordinary operation by reason of improper planning and thoughtless arrangement of the necessities for an operation. It was decided to make notes of the steps taken by all concerned during an operation. To accomplish this, one of us (Bancroft) dictated to a stenographer the movements of the various nurses and physicians during a routine operation performed by the attending surgeon (Pool). Two operations, the repair of an inguinal hernia and an appendectomy for chronic appendicitis, were thus recorded.

We made a ground floor chart of the operating room, drawn to scale with the tables in place for the operations. On this, the movements of each nurse from the beginning to the end of the operations were outlined (Figs. 1 and 2). After analysis of the dictated records and the graphic charts, we found the main faults to be:

1. Lack of system.

2. Too many and too small tables for sterile supplies, extra instruments, etc.

3. Unnecessary energy wasted when the patient is in the Trendelenburg position by nurses stepping down from benches to obtain supplies from tables and stepping up again to reach the operative field or instrument tray.

To correct these faults, we explained to the operating room staff the significance of the charts, and impressed on them the importance of simplifying the work. By interesting the nursing staff, we have been able to cut down the unnecessary steps to an astonishing degree, as is evident by reference to Figures 3 and 4.

Three of the old tables were discarded and two new ones (Figs. 5 and 6) were substituted. These are much

larger than the old ones, and are provided with a foot pump so that they can be raised or lowered easily. Raising these tables to the proper level eliminates the necessity for the nurse to move from the bench in order to obtain extra supplies during pelvic operations. The stimulus to improve the technic of the routine operations keeps the staff on the alert and counteracts the monotony of the routine cases.

We have adopted a signal system (Fig. 7) for use during operations. Many others, notably Brewer, have adopted such a procedure more or less extensively, and we refer to it merely as a suggestion to those who have not had the idea called to their attention. The habit of signaling becomes automatic, and the appropriate instrument is quickly obtained. The method seems to add to the smoothness of the operation.

COOPERATION WITH DISPENSARY

An effort has been made to bring the dispensary and the hospital service into close association. The fourth man on the service is chief of the dispensary, and his privileges in the wards are dependent on his management of the dispensary. Each of the other three members of the staff is expected to visit the dispensary on a definite day each week; his visit is scheduled for a certain time, and unusual cases are reserved for his inspection and advice.

About once a fortnight, a member of the dispensary staff gives a clinic. Invitation cards are sent to the physicians of the neighborhood, and unusual cases or new methods of therapy are presented. This stimulates interest and prevents initiative being obliterated by routine.

The history of every case sent from the dispensary to the wards accompanies the patient and is attached to the ward history. On discharge, a note is written by the house surgeon summarizing the operation, pathologic findings and convalescence. The dispensary history is then returned to the outpatient department. In this manner, it is possible for the outpatient surgeon to follow his cases.

Ventilation of Shipholds After Fumigation.—Experiments by the officers of the Public Health Service in the fumigation of ships for the killing of rats suspected of being the source of plague have shown that sulphur dioxid and hydrocyanic acid gas are the best fumigants. The latter is most efficient and desirable because it takes less time, and the ship may be put into service sooner after fumigation. To shorten the time still further and render the ventilation of the ship's compartments more complete, experiments were conducted. Grubbs of the Public Health Service describes in *Public Health Reports*, Oct. 19, 1917, the methods employed. In India, according to Heiser, the gas is aspirated from the vessel through the pipes used to fill the holds with the gas. This method was not employed by Grubbs. Electric fans were placed in the vessels and operated by the electric plant belonging to the vessel. It was found that the time of ventilating the ships could be shortened, but there were objections on account of handling the wires connected with the fans. A gasoline-driven air propeller, designed to propel boats and sleds, was then employed. This was found to deliver about 22,700 cubic feet of air a minute. This fan was used for distributing the gas in the hold and also for ventilation. In its use for the latter purpose, it was attached to the hatch combing and the air introduced into the hold through muslin chutes. It was found that this machine in ten minutes would throw into the bottom of the hold an amount of air equal to the cubic capacity of the ship. This fan has been modified so that it will work horizontally, and is arranged on a frame so that it may be carried by two men. It weighs less than 100 pounds. It has been found expeditious and satisfactory.

SURGICAL TREATMENT OF CHRONIC ENTEROCOLONIC DIARRHEA*

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Chronic diarrhea can be temporarily relieved by rest, strict diet, antiseptic, astringent and antiperistaltic drugs and irrigation through the anus, but often recurs when the patient returns to business, eats normally and discontinues medication.

Chronic inflammation or ulceration of the intestine, however produced, is often difficult to cure except by surgical intervention. By operation and irrigation, I have permanently cured many diarrhea patients who had been previously treated for months or years by nonsurgical measures.

Up-to-date physicians and surgeons realize that removal or direct treatment of bowel lesions is essential to the successful handling of many types of chronic diarrhea; and I hold that the time has arrived for the profession to give "intestinal stasis" a rest and to devote its attention to the operative treatment of otherwise incurable chronic diarrhea.

The family physician must be taught to differentiate between different types of frequent movements that he may intelligently treat them, or refer the patient to the proper specialist according to their cause; for instance, pyorrhea cases to the dentist; ear, nose and throat infections to the laryngologist; psychic and neurogenic disturbances to the neurologist; ptomain poisoning, gastrogenic or enterogenic dyspepsias to the gastro-enterologist; functional and organic disease to the practitioner or internist, and inflammatory, ulcerative or obstructive lesions of the small intestine, colon or rectum to the coloproctologist.

INFLAMMATORY AND ULCERATIVE ENTEROCOLITIS (DIARRHEA)

Usually diseases causing diarrhea are characterized by inflammatory or obstructive intestinal lesions, formerly discussed under the captions of intestinal catarrh, tuberculosis, syphilis and dysentery; but increased knowledge concerning the etiology of diarrhea makes this classification untenable.

The term "dysentery" is often applied to intestinal ailments characterized by the syndrome of abdominal pain, rectal tenesmus and fluid evacuations containing blood and mucus; but the appellation is confusing, since it has no etiologic significance, and dysenteroid manifestations complicate all ulcerative intestinal affections.

Generally chronic diarrhea is incited by colitis. Would it not be wise to forget so-called "dysenteries" and to classify inflammatory and ulcerative intestinal lesions etiologically, an arrangement that would permit their discussion under the headings of catarrhal, tuberculous, syphilitic, gonorrheal, endamebic, bacillary, balantidic, flagellate, coccidic and helminthic colitis and enterocolitis?

Catarrhal Enterocolitis.—This affection is quite common, and may be associated with constipation or diarrhea, when the mucosa is inflamed, excoriated or ulcerated. Catarrhal colitis can be relieved usually

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without surgery when the patient abstains from violent exercise or work, adheres to a suitable diet, and takes medicine to lessen fermentative and putrefactive changes, to destroy intestinal bacteria, to minimize toxins, to allay peristalsis and to heal the bowel. In neglected cases, when the small and the large intestines are involved by numerous ulcers, colonic medicated irrigations and high oil and bismuth injections sometimes effect a cure; but when they fail, the abdomen should be opened and a catheter inserted into the ileum, cecum or appendix, and the bowel flushed daily with physiologic sodium chlorid or medicated solution until the lesions are healed and the diarrhea subsides.

Syphilitic Colitis.—Enteritis and colitis syphilitica are rare, but intestinal syphilis rapidly destroys the mucosa or induces stricture. The process makes the intestine brittle, and in two of my cases the bowel broke in two while being lifted into the wound. Good results are obtained by extirpation of the involved intestine; but when the patient declines radical operation, jejunosigmoidostomy or ileosigmoidostomy or rectostomy is indicated.

Urgent manifestations occasionally make ileostomy or colostomy imperative to prevent death from perforation or obstruction.

Two of my patients in whom an artificial anus was established for syphilitic diarrhea, one seventeen, and the other twenty-five years ago, are earning their living. Salvarsan or antisyphilitic drugs alone are valueless when the intestinal mucosa is extensively ulcerated or the bowel stenosed.

One hesitates about extirpating the rectum, when distorted by a syphilitic stricture and ulceration, since the operation is tedious and more hazardous than proctectomy for cancer, owing to adhesions and brittleness of the intestine.

Gonorrheal Enterocolitis.—I have never known gonococci to attack the small intestine, but I have treated many patients for gonorrheal colitis and proctitis. Usually I have been able to arrest the inflammatory process and control diarrhea, pain and rectal tenesmus by daily colonic irrigation, using a 4 per cent. solution of argyrol or a 2 per cent. solution of ichthyol.

Endamebic Enterocolitis.—Endamebiasis, common to tropical countries and temperate zones, has been encountered frequently in the United States, since we took possession of Porto Rico, and the Hawaiian and the Philippine Islands. The disease is caused by *Endameba histolytica,* an organism difficult to eliminate permanently because it embeds itself in the mucous membrane and submucosa and breaks out and reinfects the bowel following an apparent cure.

Endamebiasis is characterized by chronic diarrhea with mucus, pus and blood in the stools, and loose movements are caused by an inflammed or ulcerated mucosa, endamebic hepatic abscess or intestinal stricture.

The manifestations and degree of diarrhea induced by endamebiasis depend on the segments of bowel involved and the degree of ulceration, for in the beginning, denuded areas are few, small and superficial, but when there is mixed infection, the mucosa of the colon and the rectum is distorted by superficial or undermining ulcers having intercommunicating fistulas.

Abdominal pain, diarrhea, hemorrhage and tenesmus are mitigated by rest, dietary, oil enemas, colonic irrigation and antidiarrheal drugs, but aggravated endamebiasis is rarely cured without surgery, though temporary improvement has followed the administration of from 20 to 30 grains of ipecacuanha or ¼ grain of emetin administered as required.

The lesions may be confined to the colon and rectum, but in several of my cases the lower ileum was infected and patients complained of terrific colic, abdominal distention, explosive fluid and acrid, foul-smelling stools.

Drainage through the appendix or cecum is not effective when the ileum is involved, and my enterocecostomy, which provides a means of separately or simultaneously irrigating the large and small intestine, meets indications in these cases.

Appendicostomy and cecostomy are a godsend to patients afflicted with endamebic or other types of ulcerative colitis, because they are easy to perform, are not dangerous, and provide a vent for through and through medicated irrigation, which frees the intestine of pathogenic organisms, acrid discharge, toxins and irritating débris, relieves autointoxication, heals ulcers and arrests diarrhea.

Ichthyol, 2 per cent. and hydrogen peroxid, 5 per cent., the irrigants of choice, are superior to quinin.

When the patient is exhausted from starvation, diarrhea and hemorrhage, the colon is irrigated twice, but in less urgent cases daily flushing is sufficient. Recovery is prompt following direct bowel treatments, and usually the patient gains rapidly in weight.

Hepatic abscesses complicating endamebiasis are opened and drained.

Bacillary Enterocolitis.—This affection is common in China, Japan and the tropics, and is more virulent when caused by Shiga's than by Flexner-Harris', Hiss', Park's, Duval's or other dysenteric bacilli.

Bacillary colitis is encountered in France, Germany, Russia, the United States and other cold climates, but usually in epidemic form and most often in unhygienic penitentaries, insane asylums and barracks.

The infection rapidly destroys the mucous membrane by ulceration or diphtheric sloughs unless arrested by the serum treatment.

Abdominal pain, frequent bloody evacuations and rectal tenesmus disappear in from three to four days in mild, and in from four to six days in aggravated cases following the injection of serum, except when it is not powerful or the patient has an idiosyncrasy against it. Sometimes several weekly injections are required to cure diarrhea.

Since serums are useless in endamebic colitis, this form must be differentiated from the bacillary type.

Serums are not effective in the presence of mixed infection, or when the intestine is distorted with ulcers, fistula or stricture.

I have cured many patients with appendicostomy, cecostomy or my enterocecostomy and frequent colonic flushing, using antiseptic, astringent or healing solutions. In extreme cases characterized by colonic distortion, excision, short-circuiting or establishment of an artificial anus served their purpose.

Since the surgical treatment of balantidic, flagellate and coccidic colitis is similar to that outlined for endamebic chronic diarrhea, they will not receive further consideration.

Helminthic Enterocolitis.—This affection is rare, but frequent evacuations may be caused by irritation from tape worms, strongyloid or lumbricoid worms, flukes,

whipworms, threadworms and hookworms, or obstruction may be induced by a collection of parasites. Usually helminthic colitis is relieved or cured by purgation, vermifuges and high chemical injections, but enterotomy and colotomy have been employed when evacuating worms, and twice I succeeded in eliminating the parasites with their ova by appendicostomy and cecostomy followed by bowel flushing.

Tuberculous Enterocolitis.—The intestinal segments (duodenum, jejunum and upper ileum) coming first in contact with the organisms are seldom involved, while the ileocolic angle is attacked in 85 per cent. of cases.

Tuberculous foci may originate in the mucosa and extend to deeper tunics or begin in the serosa.

There are several varieties, namely, superficial-ulcerative, deep-ulcerative, neoplastic, fibroplastic, glandular and peritoneal, the first three being the most common.

Surgical intervention is indicated in bowel tuberculosis when other measures fail, infection is virulent, hemorrhages frequent, diarrhea is exhausting, the patient's strength is being rapidly depleted, and when there is complicating perforation, peritonitis, stricture, abscess or fistula.

Operative interference is contraindicated when the sufferer is dying from phthisis or tuberculous lesions elsewhere.

When through and through irrigation by way of the appendix or cecum fails to cure ulcerative colitis, it is because irrigations are not copious, not properly medicated or they are always carried out with the patient in the same posture, which prevents the fluid from coming in contact with all sides of the diseased intestine.

Local gas or gas-oxygen is preferred to ether anesthesia, because the latter aggravates pulmonary foci.

Successful operations accomplish removal of the disease, diversion of the fecal current, or provide for through and through colonic irrigation.

Depending on their location, tuberculous foci are extirpated by enterectomy, cecectomy, sigmoidectomy or proctectomy. Short-circuiting is accomplished by entero-anastomosis or unilateral or bilateral exclusion; and through and through bowel flushing is achieved by ileostomy, appendicostomy, cecostomy or my entero-cecostomy.

Resection is the procedure of choice, and tuberculous subjects stand the operation well, except when adhesions are extensive or the bowel is severely traumatized, and the removal of a few inches more of the intestine does not make the undertaking more hazardous.

Occasionally preliminary exclusion, appendicostomy or cecostomy are advisable to prepare the patient properly for radical operation.

I have short-circuited the small or large intestine ten times for tuberculosis, and putting the bowel at rest markedly benefited eight patients.

Usually I perform appendicostomy or cecostomy in connection with exclusion, in order that by through and through flushing I may prevent the backing up of feces and treat lesions directly.

Short-circuiting is not always satisfactory, because it is more often palliative than curative; convalescence is longer than following extirpation; bacilli-laden discharge continues to pass over healthy intestine; the disease sometimes attacks the anastomotic opening, necessitating a second operation, and no attempt is made to extirpate tuberculous glands.

Appendicostomy, cecostomy or Gant's enterocecostomy is indicated when the patient is being weakened by diarrhea, bacterial or chemical toxemia, hemorrhages, gas accumulation, colic, tenesmus or burning pains incident to acrid discharges, and when enteroclysis by way of the anus fails.

Through and through irrigation palliates or cures superficial and deep ulcerative types, but rarely benefits neoplastic, fibroplastic, glandular and peritoneal enterocolonic tuberculous foci which require extirpation.

OBSTRUCTIVE (MECHANICAL) ENTEROCOLONIC DIARRHEA

This represents a type of diarrhea in which evacuations are made frequent or liquid by lesions that block the bowel. Patients of this class complain of constipation, then obstipation, alternating with loose movements, and finally diarrhea when obstruction is marked.

Obstructive diarrhea is usually mistaken and treated for diarrhea caused by gastrogenic, enterogenic and neurogenic disturbances, because physicians fail to examine properly the abdomen, colon and rectum. It seldom originates in the small intestine, but lesions responsible for it are common to the colon, sigmoid flexure and rectum.

Diarrhea is attributable to valvelike fecal masses that irritate or obstruct the intestine, and to stercoral ulcers that augment peristalsis.

The following lesions may cause loose evacuations or alternating diarrhea and constipation: congenital deformities, extra-intestinal pressure, stricture, tumors, foreign bodies, intestinal calculi, fecal impaction, adhesions, angulation, diverticula, pericolic membrane, sacculations, diseased mesentery, volvulus, kinks, hernia, invagination, procidentia recti, enteroptosis, colonic dilatation, enterospasm, parasites, hypertrophy of O'Beirne's sphincter, the rectal valves, or levator ani and sphincter muscles, coccygeal deviation and anorectal affections.

Obstructive diarrhea has a complex etiology and different operations are required to relieve it, many of which are effective and bring good results.

Congenital anorectal deformities are common, but colonic malformations are rare. In partial congenital colonic obstruction, nonoperative measures work temporarily; but when it is complete or almost complete the deformity must be corrected or excised.

Anorectal occlusion caused by narrowing of the anal canal, a membranous partition or fibrous band, is corrected by a free incision and subsequent rectal divulsion.

When the anus is imperforate, the rectum is dissected free and sutured in the anal region, and complicating fistula is eliminated by closing the opening following repair of the rectum.

Extra-abdominal pressure causing diarrhea is removed by destroying adhesions, anchoring the uterus, excising the prostate or extirpating the tumor compressing the bowel.

Strictures involving the small intestine, colon or sigmoid flexure are excised unless inoperable, when obstruction is relieved by exclusion or colostomy. Rectal stenoses are difficult to remove, and, barring deplorable instances, obstruction is overcome by posterior proctotomy and dilatation, or colostomy and putting the bowel at rest.

Benign and malignant tumors cause persistent diarrhea, which continues until they are excised, short-circuited or an artificial anus is made. Colonic resection is indicated, since it effects a cure, and lateral anastomosis with a large opening is preferable to end to end anastomosis, which frequently leads to obstruction and recurrence of diarrhea.

Rectal cancers, according to their location, are extirpated by perineal, vaginal, sacral or abdominoperineal proctectomy, except when inoperable, and then colostomy is performed.

Polypi of the large intestine are treated like cancers, but rectal polyps are ligated and excised or removed by attaching my valve clamp to their pedicles.

Occasionally rectocolonic papillomas are cured by frequent colonic irrigation.

Foreign bodies inducing diarrhea are evacuated with high oil enemas, but when encysted or caught in a bowel kink, enterotomy or colotomy is required. Free bodies in the rectum are drawn through the proctoscope with forceps, but when imbedded, or if they have sharp angles, divulsion or division of the sphincter facilitates their extraction.

Colonic fecal impaction consequent on constipation, enterospasm or obstruction induces coprostatic diarrhea, until offending scybala are expelled by castor oil, massage and frequent high oil or hydrogen peroxid enemas, which disintegrate the masses so they can be washed out.

Fecal impactions in the sigmoid and rectum are broken up with a gouge through the proctoscope, or with the finger when low, after which they are evacuated by irrigation.

Adhesions causing obstructive diarrhea vary, and routine surgical procedures are impractiable. When threadlike or due to exudates, they are destroyed by massage, with the finger, or wiping glued intestinal loops apart; but organized fibrous bands and rigid sheathlike adhesions are exposed by celiotomy, and severed or dissected from the bowel. Their reformation is lessened by covering raw areas, floating the bowel in sterile oil or saline solution, encouraging postoperative peristalsis, and frequently changing the patient's posture.

Resection, exclusion or an artificial anus is indicated when the intestine is completely incapacitated by undestroyable adhesions.

Pericolic or Jackson's membranes compressing the bowel are eliminated by ligating and severing their attachments and peeling them from the cecum or colon; but, in deplorable instances, the involved intestine is excised or excluded, or a vent is made above the block.

Angulations and twists are treated as above if caused by adhesions, but when due to ptosis, the intestine is straightened, replaced and anchored to the anterior or posterior abdominal wall by colopexy, unless its functionating power is permanently destroyed, in which case extirpation, short-circuiting or an artificial anus is imperative.

Chronic invagination of the sigmoid flexure into the rectum complicated by coprostatic diarrhea is quickly and permanently relieved by sigmoidopexy alone, or in conjunction with colopexy.

Colonic dilatation is quickly corrected by coloplication reinforced by colopexy; but when caused by constricting adhesions they are eliminated, or obstruction is relieved, by colectomy, ileosigmoidostomy or a cecal anus.

Diverticula occasionally induce frequent evacuations containing foul-smelling pus. Small pouches are ligated and removed, buried by inversion and suture or extirpated by elliptical incisions and closure of the wound; but large and inflamed diverticula complicated by peridiverticulitis or abscess are excised. Short-circuiting and colostomy are contraindicated unless there is perforation, or an abscess or fistula.

Sometimes a cure is effected by dissecting out the fistulous sinus opening, cleansing and draining the diverticular cavity, reinforced by suturing the bowel opening.

Splanchnoptosis, enteroptosis and coloptosis often cause alternating diarrhea and constipation that continue until ptotic organs are reanchored by gastropexy, colopexy, sigmoidopexy and nephropexy alone or combined.

Enterospasm is controlled by hot water drinking, high warm enemas, hot abdominal fomentations, and belladonna continued until intestinal contractions, colic, constipation and diarrhea are relieved. Where enterospasm is prolonged and causes partial or complete obstruction, resection or an artificial anus is sometimes indicated.

Hypertrophy of O'Beirne's sphincter at the rectosigmoidal juncture is occasionally responsible for obstructive diarrhea, and when not relieved by hot fomentations and belladonna, topical application to ulcers or stretching the narrowed intestine with an inflatable rubber bag, extirpation or exclusion may be necessary.

Thickened rectal valves responsible for coprostatic diarrhea are eliminated by my valvotomy.

Sphincteric hypertrophy producing constipation and diarrhea, formerly treated by divulsion under ether, is immediately overcome by severing the muscle, following eucain infiltration.

Fissure-in-ano inducing sphincteralgia and fragmentary evacuations is quickly cured by splitting the anal canal under eucain anesthesia.

Hemorrhoids responsible for diarrhea are infiltrated, ligated and excised.

Procidentia recti is corrected by linear cauterization, removal of rectal flaps, or, in aggravated cases, by reinforcing these procedures by sigmoidopexy.

Coccygeal Abnormalities.—When the bone obstructs or perforates the rectum, coprostatic or irritating diarrhea ensues and continues until the coccygeal tip is excised.

In cases of mechanical diarrhea, however, produced when the bowel is atonic, dilated or partially paralyzed, or the patient suffers from autointoxication, removal of the obstruction does not cure unless reinforced by tonics, stimulation of the emunctories and colonoclysis to eliminate the toxins.

Finally, in deplorable cases of obstructive diarrhea with toxemia, I perform appendicostomy or cecostomy, when getting rid of the block, that the bowel may be cleansed of toxins and débris by through and through irrigations.

CONCLUSION

I would emphasize the frequency with which surgery is indicated in treating chronic enterocolonic diarrhea, and the rapid curability of the condition by operation reinforced by the therapeutic measures outlined.

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Military Medicine and Surgery

THE EAR AND AVIATION

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PHILADELPHIA

In aviation we have a practical example of the importance of the ear in maintaining equilibrium. It is now recognized that equilibrium is made possible by three senses—the balance-sence of the internal ear, sight, and a group of general impressions which for convenience is called the "muscle-sense." It is not necessary for an individual to have perfect internal ears, perfect sight and perfect muscle-sense in order to have good equilibrium. If the internal ears are impaired, the individual can maintain his equilibrium by means of sight and the muscle-sense; if his sight is impaired, the ear-sense and the muscle-sense enable him to maintain his balance; and if his muscle-sense is impaired, as in tabes, his ear-sense and sight are sufficient to enable him to stand and walk with confidence and accuracy. For this reason we must remember that, through various toxemias, such as mumps, syphilis and the infectious fevers, a person may have an impairment and even a complete destruction of his ear balance-sense and yet not be in any way conscious of this defect, simply because his sight and muscle-sense make it possible for him to maintain his equilibrium.

These facts, however, take for granted that the individual is on "terra firma." When the human being becomes a bird, as it were, he suddenly finds himself in an entirely new environment. Without functionating internal ears, it is impossible for a person to be a good bird-man. When flying through the air, on what does the aviator rely in order to maintain his equilibrium and that of the aeroplane? Can he rely on sight? Hardly; for when he is sailing through the clouds or darkness, his eyes cannot give him the slightest information about his position in space—not even whether he is right side up or upside down. As regards the muscle-sense, it is undoubtedly true that it plays a certain part; but when the aviator is seated on an unstable and rapidly moving machine, it is hardly conceivable that the weight of his body could determine and maintain his position in space merely by the sensing of gravity. In order, therefore, to preserve that wonderful accuracy necessary in controlling such a delicate mechanism as the flying machine, he relies preeminently on his *ear* balance-sense. It is easily conceivable that some of the unexplained accidents in aviating may be due to a concussion of the internal ear produced either by the deafening roar of the engine or by the decrease of the air-pressure when at great heights. Also in a rapid ascent from a denser to a rarer air there occurs an oxygen insufficiency which has a direct effect on the ear-mechanism through the blood stream. It is also highly probable that many an aviator has gone to his death because, all unknown to him, he did not possess a normal ear-mechanism; in the presence of a combination of difficulties in which all normal faculties would be requisite, because of an imperfect ear-mechanism he was unable to maintain his balance.

To realize the importance of the ear in the matter of flying, it is only necessary to consider a bird flying in a cloud. His muscle-sense naturally means practically nothing to him; his sight is of no help. He relies almost exclusively, therefore, on normally functionating semicircular canals, which, as we know, are wonderfully developed in the bird.

Summarizing, therefore, even when an individual is standing or walking on the earth, his ears constitute his sense-organs of balance; as long as he remains on the earth he has in addition the contributory help of information received from his muscle-sense and his sight. When he rises above the earth and flies in the dark it is obvious that these contributory factors are practically eliminated and that he must rely almost exclusively on the ear balance-sense.

Since normal internal ears are such an asset—in fact a prime requisite—for the aviator, common prudence would suggest a most careful examination of the degree of function of one's internal ears before taking up flying as an occupation. The ear-tests furnish exact and mathematical data concerning the function not only of the internal ear, but also of the entire vestibular apparatus; this includes the ears themselves, the eighth nerve, the brain-stem, the cerebellum and the entire balance-mechanism.

When it was announced that a state of war existed between the United States and Germany, it at once became apparent that a tremendous number of aviators must be secured for the military service within the shortest possible time. The medical problem consisted of selecting thousands of physically equipped candidates for aviation and placing them in training for war service immediately. The Medical Department found it necessary to decide on new methods of physical examination and to adopt new standards of physical qualifications for this branch of the service. This had to be done not merely for one place or for one examining group; it was necessary to make the tests practicable for cities in all parts of the United States, without, at the same time, in any way lowering the requisite rigid standards or lessening the completeness of the examination. How could this be done? In a word, such an ideal could be attained only by: (1) the standardization of the tests, and (2) the standardization of the *examiners*.

STANDARDIZATION OF TESTS

The methods presented in this paper were adopted in May, 1917, as the standard for the United States Army. The following briefly summarizes the fundamental principles underlying the examination for aviators. The aviator must be in a sense the "superman." He must have $^{20}/_{20}$ vision without glasses. He must have $^{4}/_{40}$ hearing. Such requirements are higher than for most branches of military service. A candidate for every branch of service must conform to a certain physical standard; he must be a normal man, such as would satisfy the average life insurance company, with the additional requirements of a certain relative height, weight and chest measurement, and a definite visual and auditory acuity. Like any other candidate for service, the aviator must conform to all these requirements and in addition must possess visual and auditory acuity to a high degree. There is, however, an attribute not required by any other branch of the military service that is indispensable to the perfect aviator—a good *balance-mechanism*. Therefore the peculiar test, applied to the aviator alone, is the special examination of the equilibratory portion of the internal ear.

So presented in the official blank, the equilibrium and the vestibular tests are made thus:

The nystagmus, past-pointing and falling after turning are tested. The turning-chair must have a head-rest which will hold the head 30 degrees forward, a foot-rest and a stop-pedal. (The American Modification of the Bárány chair is officially required. This made possible the establishment of an absolute standard. While the tests could be made by using other types of turning-chairs, an exact quantitative estimation of the responses can be definitely established only by the use of a standardized chair.)

(*a*) *Nystagmus.*—First of all, a spontaneous nystagmus must be looked for. It is noted whether there is any twitching of the eyes when gazing straight ahead, or looking either to the extreme right, the extreme left, up or down. With the head forward 30 degrees, the candidate is turned to the right, eyes closed, ten turns in twenty seconds. The instant the chair is stopped, the stop-watch is clicked; the candidate opens his eyes and looks straight ahead at some distant point. There should occur a horizontal nystagmus to the left of twenty-six seconds' duration. The candidate then closes his eyes and is turned to the left; there should occur a horizontal nystagmus to the right, of twenty-six seconds' duration. A variation of ten seconds is allowable (either as low as sixteen seconds or as high as thirty-six seconds).

(*b*) *Pointing.*—1. The candidate closes his eyes, sitting in a chair facing the examiner, touches the examiner's finger held in front of him, raises his arm to the perpendicular position, lowers the arm, and attempts to find the examiner's finger. This is done first with the right and then with the left arm. The normal person is always able to find the finger.

2. The pointing test is repeated after turning to the right, ten turns in ten seconds. During the last turn, the stop-pedal is released, and as the chair comes into position, it becomes locked. The right arm is tested, then the left, then the right, then the left, until candidate ceases to past-point. The absolutely normal will past-point to the right three times with each arm, if needless delay is avoided. (However, one past-pointing to the right of each arm qualifies, if the nystagmus and falling are normal.)

3. The past-pointing is repeated after turning to the left. (Similarly one past-pointing of each arm to the left qualifies, if the nystagmus and falling are normal.)

(*c*) *Falling.*—The candidate's head is inclined 90 degrees forward. He is turned to the right, five turns in ten seconds. On stopping, the candidate quietly sits up, eyes closed, and should fall to the right. This tests the vertical semicircular canals. He is turned to the left, the head forward 90 degrees; on stopping, he again sits up, and should fall to the left.

Obviously these tests as presented in this blank are not intended to make a diagnosis of a pathologic lesion. The object is merely to determine *whether or not the ear-mechanism is normal.* If, in these tests, the candidate shows normal responses in nystagmus, past-pointing and falling, he is fit for the Aviation Service; if he does not, he is unfit for that service. These simple turning-tests eliminate all unnecessary time-consuming diagnostic procedures. The entire series of tests as outlined in the blank requires only three and three-fourths minutes, and yet in this short time we are able to determine the integrity of the internal ears, the eighth nerves, and the pathways through the medulla oblongata, the pons, the six cerebellar peduncles, the cerebellum itself and the cerebral crura to the cerebral cortex.

Incidentally, these tests are in no sense severe, and are in fact seldom regarded even as unpleasant. Occasionally nausea occurs after a few turnings; it is then merely necessary to stop the examination for the time being and to complete the remainder of the tests after an interval of a half hour. There is no need whatever to make these tests in any way distressing to the candidate.

These turning-tests quickly separate the obviously fit from the unfit. The majority of the candidates show normal responses; no further testing is required, and they therefore qualify and are accepted. Some candidates show such markedly subnormal responses that they are immediately disqualified and rejected. A limited number give what might be termed "border-line" responses; the question then arises, Has this particular applicant *sufficient* balance-sense to become an aviator? It is here that the caloric test is useful. The turning has tested both the right and the left ears simultaneously. The caloric method enables us to test each ear separately. Water at 68 F. is allowed to run into the external auditory canal from a height of about 3 feet through a stop-nozzle, with the head tilted 30 degrees forward, until the eyes are seen to jerk or the individual becomes dizzy. The length of time from the beginning of the douching until the jerking of the eyes becomes apparent, or until the applicant says he is dizzy, is accurately measured by a stop-watch. The type of nystagmus is then noted. It should be rotary, and the direction of the jerk should be to the side opposite to the ear douched. The length of time shown by the stop-watch in the normal is forty seconds. The eyes are then closed and the past-pointing is taken. The head is then immediately inclined backward 60 degrees from the perpendicular (or 90 degrees from the original position). There should then appear a *horizontal* nystagmus to the side opposite to the ear douched. The eyes are then closed, and the past-pointing is taken with the head in this position. The left ear is then douched, and the same procedure carried out. If the caloric test applied in one of these "border-line" cases shows only a slight impairment of the responses from each ear, the candidate is qualified. A slight impairment would be indicated if, instead of the normal forty seconds of douching, there was required not more than ninety seconds of douching. If one ear shows normal responses, whereas the other ear shows responses only after *more* than ninety seconds of douching, the candidate is disqualified. Care should be taken to be certain that the cold water is reaching the drum-head during the caloric test, as wax or other obstruction in the external canal would interfere with the responses in a perfectly normal individual.

The examination of a candidate for the aviation service is a different matter from the examination of a patient. We are dealing with an alert mind, anxious to make the best showing possible. Many candidates feel that "jumping eyes" and evidences of vertigo are signs of weakness and would be counted against them. Because of this anxiety, many candidates attempt to shorten the duration of the nystagmus by fixing the eyes on some near object. It is perfectly possible by the fixing of the eyes to shorten the duration of the nystagmus. It is a common experience in this work to note that when many observers are standing about the candidate and in his line of vision, the nystagmus is usually of short duration: If these observers are asked to stand back out of the line of vision, the same candidate almost invariably shows a longer duration of nystagmus. Further to obviate fixation of the eyes, it is always necessary to place the chair near a large window so that the candidate has an unobstructed view of an object placed at "infinity"—over 100 feet. Furthermore, instead of obeying the natural impulse to past-point, candidates frequently make a mental calculation as to the vertigo induced, and voluntarily attempt *not* to past-point. This is also true of falling. In such instances, the examiner, bearing in mind the type of individual with whom he is dealing, urges the applicant to "act perfectly naturally," and is then

usually able to elicit a true response to the test. Supposing, however, that the candidate still fails to past-point, although he has shown a normal nystagmus and falling, we are able to decide the matter finally in the following way: First the quantitative estimation of vertigo is taken. The after-turning vertigo is measured as follows. The candidate is turned to the right, ten turns in ten seconds with the eyes closed. As he is being turned, he is asked to describe his sensations and to keep on telling in which direction he feels he is being turned; thus he will say, "To the right, to the right, to the right," etc., until the chair is stopped; then he will feel himself turning in the opposite direction and will say, "Now I am going to the left, to the left, to the left," etc., when as a matter of fact he is sitting perfectly still in the chair. The duration of this sensation of vertigo from the time that the chair is stopped until he ceases to feel that he is going to the left is taken in seconds with the stop-watch. The normal should show an after-turning vertigo of twenty-six seconds. The test is then repeated by turning to the left, and the candidate should exhibit a vertigo in the opposite direction of twenty-six seconds. Should the candidate show over sixteen seconds of vertigo in both directions, having previously shown a normal nystagmus and falling, the examiner then realizes that the absence of past-pointing was probably due to a calculated correction rather than to any pathologic condition. The question is definitely determined by douching the ears. Although a candidate can estimate the significance of the sensation of vertigo after turning, he has no control over this sensation after douching; he is unable to calculate the meaning of the vertigo produced by the caloric test. Therefore, if he fails to past-point after the douching-tests, he is definitely disqualified.

STANDARDIZATION OF EXAMINERS

So much for the standardization of the tests themselves. Equally important was the problem of the standardization of the examiners. For this purpose a medical officer was sent under special orders to each of thirty cities throughout the United States, and in each one of these cities there was established a medical unit for the examination of candidates for the Aviation Service. The requirements of the tests were fully explained to each medical unit, so that not only the same equipment is used, but also exactly the same technic. This rendered it impossible for any candidate to say, "I wish I had been examined in a certain city where the tests are easy, rather than in a certain other city where the tests are exacting." Those otologists were selected who were most expert in the Bárány-tests, and given intensive training by the medical officer sent for the purpose of establishing a uniform technic. Thus, in a few months the testing was put on an absolutely uniform basis in all examining centers.

In order to save time, already existing institutions, such as large hospitals or state universities with their equipments, were utilized as these examining centers. Volunteer staffs of civilian consultants were locally organized, and the work of the examining centers systematized to a point of highest efficiency, with the result that within a few days of the arrival of the medical officer at the examining center the work was in full swing. By this method of *decentralization*, the examination of thousands of applicants in a minimum space of time was made possible. First of all it was necessary to make sure that those in charge of each examining center were fully equipped and capable to make these tests; this once assured, full authority and responsibility were vested in the medical officer in charge of each center. Thirty medical aviation centers, each examining from ten to forty candidates a day, provided immediately the thousands of men required.

It is obvious to the candidate himself, that if he is deficient in his ear balance-sense he is not only a danger to the service, but he is also unnecessarily imperiling his own life when he attempts to fly. Certain members of the medical profession and certain veteran fliers, because of the newness of these methods, expressed skepticism in regard to their value. One physician, a member of an examining unit, was surprised to find that when he himself was examined, he showed an almost complete lack of ear balance-sense. The turning and caloric tests failed to produce nystagmus, vertigo, past-pointing and falling. This impairment of the ear-mechanism was directly traceable to a severe attack of mumps in childhood, during which he had suffered from both of the usual complications of mumps—an orchitis and an involvement of the internal ears. His skepticism was changed to enthusiastic conviction when he thus was made to realize that without the Bárány tests he would have had no conception of this physical disability, the only suggestion of which, up to that time, had been his knowledge that he did not become seasick.

All experienced aviators that have been examined have, without exception, shown normal responses in the turning-chair. Those veteran aviators whose attention has been called to these methods of testing have expressed their conviction of the practicability of the safeguards provided by these tests in determining whether or not a man has what they speak of as "air-sense.' One seasoned American flier of fifteen years' experience stated that his doubt changed to conviction after he was examined in the turning-chair; he volunteered a statement that from his intimate knowledge of the circumstances attending the death of at least three aviators, who were killed while flying, their failure to negotiate difficulties of no unusual degree which resulted in their death might now be understood as an expression of their lack of this sense. He further added that in his judgment, if these tests had been available in the early days of flying, many a life might have been spared.

The value of the past-pointing test is well illustrated by one candidate who proved to have a post-traumatic cerebellar lesion, which was first detected by the isolated absence of past-pointing of the left arm to the right. Neurologic examination then demonstrated classical signs of lesion of the left cerebellar hemisphere. Here was a man with distinctly impaired cerebellar function attempting to enter a service in which the utmost demands are made on the cerebellum.

One ardent applicant was disqualified because of a markedly impaired internal ear, in both the cochlear and vestibular portions. It has since been learned that he went to another country, where he was accepted in the aviation service as a flier. Obviously the requirement in that country is not so high as in the United States. At the present time in the United States a high standard is required because this country is in a position to pick and choose. The vast numbers of splendid applicants makes this possible. For this reason these hand-picked men will constitute not only the largest but also the most capable and finest aviation service in the world.

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THE METHOD OF EXPERIMENT IN MEDICINE

"In a country rich in gold, observant wayfarers may find nuggets on their path; but only systematic mining can provide the currency of nations. In the search for natural knowledge, the experimentalists are the miners." There is a peculiar appropriateness in these words of Gowland Hopkins of Cambridge University at a time when men's minds are diverted by the great emergencies of war and are upset by the distorted values of every-day life. Nowadays it would require a foolhardy person to maintain that "there is nothing new under the sun," or to prophesy what cannot be done. The progressive evolution of science is expressed in the arts exemplified daily before us. We marvel at the newest phase of the conquest of the upper air or the ocean depths, at the irresistible force of the newest explosive or the perfection of the latest motor, all too often oblivious of the great strides that experimentation in medicine has brought about.

It is always refreshing and not infrequently stimulating to indulge in retrospect. What currency have the experimentalists in medicine provided in the passing years? The history of bacteriology and the entire structure of the modern conception of infectious diseases is a triumph of the experimental method. The real causes of diseases known from earliest history have been elucidated so that the modern therapeutist can build on the basis of this newer knowledge, and the sanitarian can prepare himself effectively for the struggle against invasion by micro-organisms. More recently even the diseases caused by pathogenic protozoa have yielded their story to the experimentalist.

Less startling, perhaps, but equally unique in its disclosures has been the discovery of the functions of internal secretion. The story of the pancreas, the thyroid structures, the suprarenals, the pituitary, the corpus luteum and the sex glands, each in turn presents a new point of view of regulation that takes us out of the domain of pure speculation into the field of biochemistry. It is only a few years at most since we were totally ignorant of these things. How imperfect and hampered medical thought would appear today without them! Added to this is the inroad already made in the experimental study of natural immunity to which clinical medicine already owes a great debt.

It is well for those strenuously engaged in the daily routine of the physician's life to recall some of these illustrations. The art of the physician, says Hopkins,[1] remains as before, a noble and difficult one, which must always call for special personal endowments; but experiment has widened the knowledge on which it is based, and experiment alone could have secured the progress which the last half century has witnessed.

We cannot expect the public to wax enthusiastic over something that those most concerned fail to appreciate; nor can we hope for their much needed support in any feature of medical progress that the physician himself does not heartily endorse. Experimentation in medicine belongs to a profession rather than to a trade, and therefore is not purely self-supporting or conducted solely for gain. But, as Hopkins has formulated the matter, it is not financial assistance alone that the nation should provide for the investigator. This is not even the most important stimulus that the nation can provide for him. Recognition and proper standing in the body politic are the investigator's due, and these, at least, should be forthcoming.

DANGERS IN THE MANUFACTURE OF ARSENICAL INSECTICIDES

Any one who makes even a casual inspection of a considerable variety of industries in this country must become convinced that despite the growing attention paid to the dangers of occupational conditions, there is still enormous room for improvement and reform. Too few of the industries in which workmen are menaced by harmful dusts, fumes or gases take cognizance of the menace to the extent of providing adequate safeguards, especially if they are not enforced by direct provision of the law. Industrial hygiene is still scarcely beyond its beginnings in many factories of this country.

An illustration of an industry that might have been expected to make better provision against dangers that must long have appeared obvious to even the uninitiated is furnished by recent investigations under the direction of the New York State Department of Labor[2] regarding dangers in the manufacture of Paris green and Scheele's green. These arsenical compounds, the poisonous qualities of which have been known many years, are at present manufactured by ten firms in the United States, of which firms seven are located in the state of New York. Fully 1,000 tons are produced annually, the material now being used chiefly as an

1. Hopkins, F. G.: Medicine and Experimental Science, in Science and the Nation, edited by A. C. Seward, Cambridge, 1917.

2. Dangers in Manufacture of Paris Green and Scheele's Green, Special Bull. 83, State of New York Department of Labor, July, 1917.

insecticide. It appears that considerable illness exists among many of the workers engaged in the production of Paris green, an outcome due in a measure to a lack of knowledge among those engaged in its preparation, and a disregard of the extremely poisonous qualities that this salt possesses. The inspectors of the New York Industrial Commission's Division of Industrial Hygiene report that, as the workers are unacquainted with the dangerous and poisonous properties of the arsenical insecticides, many cases of arsenical poisoning are not discovered, because as soon as a slight irritation of the skin develops or nausea occurs, the men leave the industry, and the labor engaged therein is constantly shifting.

The chief source of danger lies in the poisonous dust produced—not the irritating dust of some industrial operations, which has only a mechanical action and acts directly on the parts most exposed, nor infected dust, which carries pathogenic germs; but poisonous dusts, which are gradually absorbed and produce an actual intoxication. The New York investigators report, for example, the chemical analysis made on the air in one of the packing rooms in which the filling of boxes from barrels was performed. Three hundred and five mg. of Paris green were found per cubic meter of air at 60 F. This material occurring in the air was generated in the process of hand filling, blown off the walls and ceiling, and stirred up from the floor in the act of walking. A proper method of weighing and filling under enclosed hoods, clean walls and floors would have eliminated this large amount of dust. Samples of underclothing were analyzed and found to contain 1.1 mg. of Paris green in a piece measuring 6 square inches.

As the result of findings such as these, orders have been issued in plants wherever the labor laws are applicable against all conditions found to be detrimental to health. These orders relate to the prohibition of eating within the factory; the cleaning of floors, walls and ceilings; the provision of running hot water, soap and individual towels; the installation of exhaust systems to dispose of the dust created in the process of manufacture; the furnishing of a suitable place in which to eat meals, and the adoption of suitable means to remove dust from the floors. The inspection of the workers in the New York State factories shows the importance of periodic medical examinations for men engaged in the production of poisonous products. It is evidently useless, however, to provide up-to-date facilities for the comfort of workmen at mealtime if cleanliness throughout the plants is so neglected that the accumulated toxic materials are tracked into the room on the shoes of workmen. What is needed is better education of the workers respecting the poisonous properties of the materials with which they are concerned, and a greater sense of responsibility on the part of the manufacturers and employers for the health of their employees.

PROBLEMS IN THE CAMPAIGN AGAINST THE HOOKWORM

The important investigations on the incidence and control of hookworm disease that are being made in many parts of the world by the International Health Board of the Rockefeller Foundation have brought to light many striking facts. To the casual student of the subject, it might appear that the sole essentials in the management of a malady having a definitely ascertained etiology would be to eradicate the causative organism or eliminate the channels of infection, and to administer suitable curative agents to those already afflicted. The importance of soil pollution in the spread of hookworm disease is now clearly recognized in the campaigns being conducted against it; but in the tropical and subtropical belt, which is the native habitat of the hookworm in different parts of the world, unanticipated local and geographic conditions have placed some surprising obstacles in the path of progress in certain regions.

The hookworm surveys made in 1916 in Barbados and in British Honduras brought to light many striking facts, recorded in the latest report of the International Health Board. Thus they showed the important relation between geological structure and hookworm infection. The greater part of the island of Barbados is composed of porous coral limestone, which allows rapid seepage and percolation. The ground dries quickly, a condition unfavorable to the growth of young hookworms; and even though the thin superlying stratum of soil is polluted by fecal matter, this may easily seep away during rain. The smaller portion of Barbados, known as the "Scotland district," has an underlying structure of impervious sandstone and clay. This picturesque highland district shows heavy infection; it is estimated that in it 25,000 persons suffer from hookworm disease within an area of less than 25 square miles. In British Honduras, when other contributing factors have been eliminated, the rate of infection is seen steadily to increase as one travels south, following a change in geological formation from porous limestone to impervious clay.

In the East there has arisen a difficulty in relation to soil pollution that is of greater importance than the spread of hookworm disease. In western countries the problem of human sewage is primarily one of hygiene. In the East, as Heiser has pointed out, it is also a question of direct economic importance, owing to the use of excrement as fertilizer. In China, human excrement is a source of revenue to the state. The director-general of the International Health Board has thus presented the situation: Human excrement is the only fertilizer available in sufficient quantities to supply agricultural needs. China has no sewerage system. Each night in urban centers the excrement is collected by coolies, who carry it in wooden buckets to

temporary storage depots outside the city walls. To these depots, farmers and gardeners go in tank boats to purchase supplies, which they convey up the rivers to their plantations of rice and mulberry. There they dig the excrement into the fields, or moisten it with water and sprinkle it over growing vegetation. A relatively light infection in Chinese cities may thus become a serious factor in spreading the disease to agricultural districts.

Here, then, agriculture and hygiene seem to clash. Secretary Greene of the Rockefeller Foundation states that the sudden stopping of soil pollution in China would mean the impoverishment of the soil unless some substitute were placed within the reach of the people. No such substitute is now available. If the problem could be economically solved in such a way as to utilize excrement without danger to the health of the people, the result would not only be of vast economic significance to the East, but might also prove of equal significance to countries in which the same material is entirely wasted. The time may come when, even in this enlightened country, the nitrogenous wastes of millions of persons will find some better utilization than the crude methods of sewage disposal now afford.

INCREASED RANK AND MORE AUTHORITY FOR MEDICAL OFFICERS

As most of our readers are aware, an amendment was introduced into Congress at the recent session which, if it had been adopted, would have given the medical officers in the Army the same rank that prevails in the Medical Corps of the Navy. Specifically the amendment provided that there should be twenty-five one-hundredths of 1 per cent. of major-generals, the same proportion of brigadier-generals, 4 per cent. of colonels, 8 per cent. of lieutenant-colonels, 23.5 per cent. of majors, 32 per cent. of captains, and 32 per cent. of lieutenants, *this to apply to both the regular and the reserve corps men.* Thus, if there are 10,000 medical officers in active service, there might be 25 major-generals, 25 brigadier-generals, 400 colonels, 800 lieutenant-colonels, 2,350 majors, 3,200 captains and 3,200 first lieutenants. This amendment lapsed without action by the ending of the session. The substance of the amendment, however, will be incorporated in a bill which will be introduced in both the Senate and the House at the coming session of Congress.

Medical officers must be equal in rank and authority with line officers if they are adequately to carry out the duties for which they will be held responsible. This fact has been emphasized by the experience of our allies in the present war, as well as by our own experience in the past. Our allies admit that in the beginning the medical officer did not have the rank, and consequently the authority, he should have had and that, for this reason, there have been grievous consequences. Among these was the disastrous experience of the British Army in the Mesopotamian campaign as a result of the failure of the medical service. The report of this tragedy, made by a board of nonmedical men, showed that lack of authority of the medical officers was an important factor. The medical officers were practically ignored. They were not advised as to the character of the expedition that was being undertaken, and as a consequence, they were unprepared for what happened. When later a medical officer made urgent representations in regard to the actual conditions obtaining, which in his opinion needed prompt action, he was threatened with arrest and removal from his post. When the actual results came the blame was thrown on the medical department, of which this medical officer was a member. The medical officers were censured because they had not protested more vigorously. We had a similar experience in 1898 when our medical officers were criticized for insanitary conditions at Chickamauga and elsewhere, although there was plenty of evidence to show that they had protested against these conditions to line officers. The whole sad story is told in detail in the Dodge report. There, also, will be found testimony that line officers treated with contempt the recommendations and protests made by medical officers. The medical officer is without influence simply because his shoulder straps indicate lower rank than that of the line officer with whom he is associated. Some may sneer, but the fact remains that it is rank that counts in both the Army and the Navy.

Of course rank brings with it increased pay. This, however, is immaterial. At the same time, it should not be forgotten that most of the physicians now in the Medical Reserve Corps have not only left the comforts of their homes, but also have given up practices which in the majority of instances yielded far more income than the pay they would receive as medical officers of the Army even if they had conferred on them the highest rank that the proposed law would provide. Among these medical reserve officers are many of the most prominent men in our profession, including the leading men in the specialties, as well as our best surgeons and internists.

When the war broke out there were less than 450 medical officers in the regular Army Medical Corps. Today there are commissioned, including officers of the regular Army, the National Guard and the Medical Reserve Corps, at least 17,000 physicians. Less than 1,000 are in the regular Army Medical Corps. Under the present law these regular Medical Corps officers are entitled to the grades of lieutenant-colonel and colonel; and in the case of the surgeon-general, to that of brigadier-general[1]; the highest rank that can be conferred on any one of the other 16,000—that is, on any reserve medical officer—is that of major.

1. Surgeon-General Gorgas has the rank of Major-General by special act of Congress.

May we remind our readers that the men in active service will be prevented by the regulations from using their influence in this matter, and that the duty of pushing this measure rests on those who stay at home? Every physician has representing him in Congress one man in the House of Representatives and another in the Senate. If every physician will let his representatives know that this proposed measure should become a law, and if in addition he will enlighten his neighbors in regard to the matter, an effective public opinion will be created. The time is opportune; congressmen are at their homes. Write or speak to your representatives now; get your neighbors to do likewise—not for the good of the medical profession, but for the good of the service.

Current Comment

SOME CRITERIA OF ABNORMALITIES IN MILK DUE TO THE STAGE OF LACTATION

According to the standard adopted for certified milk by the American Association of Medical Milk Commissions, cow's milk obtained within a period of forty-five days before parturition is excluded from use as a human food. This regulation is based on the widely accepted assumption that pregnancy influences the normal composition of milk. To test the supposition, Palmer and Eckles[1] have conducted an analytic investigation of a number of cows of various breeds in the herd of the department of dairy husbandry at the University of Missouri. Selecting as standards for the limits of normal composition the figures 4.5 per cent. for fats and 4 per cent. for proteins, they ascertained very conclusively that the stage of gestation bore no evident relation to the time when the milk and milk fat passed the limits of normality chosen for comparison. The changes in the composition may, indeed, become very marked at various periods in the milking cycle, exhibiting a high protein and fat content and an abnormal composition of the milk fat. The new comparative analyses indicate that the abnormalities, in the sense of extremes of composition, to which cow's milk is subject when parturition is approaching, are in reality due largely, if not entirely, to the stage of the lactation period. The duration of this varies considerably for different individuals. Palmer and Eckles state that cow's milk shows anomalies as soon as the lactation stimulus becomes an artificial one on the part of the dairyman. Many cows show the abnormalities several months before the next parturition; while cows that are very heavy producers with periods of parturition the usual interval of twelve to thirteen months apart may continue to produce perfectly normal milk up to the very hour of the next parturition. If the stage of lactation is the crucial factor in determining aberrations in the composition of the milk, how is the end of the period to be recognized? This question is not easily answered, except on the basis of chemical analysis. The Missouri experts suggest that the percentage decrease in the milk flow from that when the cow was fresh affords some indication. They offer this practical advice: The milk from cows giving as low as a half-gallon a day should certainly be regarded with suspicion, and should be subjected to critical analysis, especially when the feeding of infants and children is concerned.

1. Palmer, L. S., and Eckles, C. H.: Gestation Versus Stage of Lactation as Factors Causing Abnormal Composition of Cow's Milk, Am. Jour. Dis. Child., May, 1917, p. 413.

THE FEEDING OF WAR PRISONERS IN GERMANY

Among the duties that attach to the Medical Department of the Army in war is the inspection and supervision of the mess management, including not only the quality and quantity of the food, but also the hygiene of its preparation and distribution. This applies equally well to the prison camps, in which immense numbers of men are housed under the control of the nation whose captives they have become. THE JOURNAL publishes in this issue an article by Dr. Alonzo E. Taylor, professor of physiologic chemistry in the University of Pennsylvania, whose work formed the basis for the two noted reports to the American embassy at Berlin on the conditions existing among prisoners of the allied nations in Germany. This article on the feeding of war prisoners in Germany is especially timely. It is unusual because its point of view is broader than that of medicine, broader than that of science alone—in fact, as broad as humanity itself.

INTRAPERICARDIAL PRESSURE AND THE CIRCULATION

It is generally understood that one of the functions of the pericardium, if not its chief importance, is to check an excessive dilatation of the heart that might follow a pronounced rise in venous pressure which leads to the filling of the organ. Overfilling of the heart is prevented. Undue accumulation of fluid and rise of pressure within the pericardial cavity in turn produce a mechanical effect on the functions of the heart which may result in changes in arterial pressure. According to Kuno,[1] a very small amount of fluid in the pericardium causes diminution in the output of the heart. By further addition of fluid the output diminishes regularly. The arterial pressure changes only slightly until the amount of fluid in the pericardium reaches a certain limit. Beyond this limit the addition of a small amount of fluid causes a distinct fall of arterial pressure. The height of intrapericardial pressure which brings the circulation of blood to a standstill is just the same as that of venous pressure. If the venous pressure is raised during the standstill of the circulation, the blood flow is restored. In order to secure a recovery of the heart's action and circulation under a high intrapericardial pressure, therefore, it may become desirable to raise the venous pressure. This cannot well be done by injection into the veins. Kuno notes that an infusion of a large amount of blood causes no rise of venous pressure nor dilatation

1. Kuno, Y.: The Mechanical Effect of Fluid in the Pericardium on the Function of the Heart, Jour. Physiol., 1917, **51**, 221.

of the heart, or only a brief one. Such an infusion is therefore of no advantage to the circulation when this is hindered by pressure of fluid surrounding the heart. The intrapericardial pressure may sometimes be decreased, however, by the use of epinephrin; for this can diminish the volume of the heart and affect the organ favorably when it is compressed by fluid surrounding it.

THE BLOOD IN THE LUNGS

The capillaries of the lung are capable of great passive variations in capacity. This fact enables the lung to act as a sort of reservoir for one side of the heart. Any excess of output on the right side that cannot be dealt with promptly by the left heart is temporarily taken up by the wide lung capillaries, which offer very little resistance. Some idea of the extent of these variations is given by the current textbook statements. Thus, whereas at the height of inspiration the blood contained in the lungs is about one twelfth of the whole blood in the body, this amount is diminished during expiration to between one fifteenth and one eighteenth, and by forcible artificial inflation of the lungs may be lessened to one sixtieth.[1] In a recent experimental reinvestigation of the content of blood in the lungs in animals, however, Kuno,[2] of the Japanese Medical School at Mukden, has found that the amount is much larger than earlier authors have recorded. It varies from 9 to 19 per cent. of the total amount of blood. The amount of blood in the lungs increases with the acceleration of the circulation, that is, the amount of blood is about 2.2 times larger when the circulation is fast than when it is slow. When the lungs are edematous they may contain about one quarter of the whole blood, although the circulation is very slow. The time needed for the blood flow in the lungs is also more than twice as great when the circulation is slow than when it is fast. These observations, says Kuno, agree well with the necessities of life, since the amount of blood which comes in contact with the alveolar air may be directly proportional to the rapidity of the blood flow, or even increase in a higher ratio.

HUNGER AND APPETITE IN FEVERS

As has been pointed out at various times in THE JOURNAL,[3] the mechanism of hunger can now be studied in a purely objective way, in large measure independent of the impressions of the subject. The pangs of hunger are associated with rhythmic contractions of the walls of the empty stomach, and are presumably due to them. These movements can be recorded graphically by suitable instruments; the time of their occurrence, their intensity, and the factors that modify them in any way can be ascertained with the precision that belongs to modern scientific method. Impulses started by the gastric contractions are carried to the higher nervous centers, where they are recognized in normal consciousness as hunger. Appetite is not the mere sensation of pain from hunger contractions. It involves a psychic factor distinct from these physical changes, and concerns the memory of past experience with palatable foods. The clinician frequently observes conditions in which there is more or less complete loss of appetite and an absence of the pangs of hunger. This is especially true in the course of infectious diseases and in various acute exanthems. The absence of a compelling desire for food not infrequently offers a serious obstacle to the attempt to induce adequate nutrition. The reason for the loss of appetite has not been apparent, and at best the explanations commonly furnished are mere platitudes of vague hypothesis. In many instances the conditions that lead to an absence of hunger and appetite are associated with fever and the production of bacterial toxins. At the physiologic laboratory of the University of Chicago, Meyer and Carlson[4] have attempted to ascertain whether or not the elevation of temperature itself produces any effect on the hunger contractions of the stomach. Their observations by the use of the graphic method on gastric motility indicate that there is an absence of hunger contractions and a lowering of the stomach tonus during fever in dogs when the temperature reaches 103 F. and above, this being especially true in the temporary fevers. The temperature elevation itself is a factor in the depression of the stomach tonus and an inhibition of hunger contractions. Bacterial toxins, namely, paratyphoid, *B. prodigiosus*, and tetanus and diphtheria toxins, have no direct action on the contractions of the stomach musculature. The fever or the toxins appear to induce a lowering of vagus tone, on which in part the hunger contractions are believed to depend. But Meyer and Carlson do not believe that this will account for the absence of hunger during a fever lasting from ten to twenty days. The fact that external heat itself has, as they showed, a depressing effect on gastric hunger contractions is regarded by the Chicago investigators as significant with respect to gastric motility. Thus they say that the gastric derangements in young infants with the onset of warm weather may be due in part to the heat factor itself. It is conceded, of course, that the gastric enzymes and the food play a part in the disturbance.

1. Starling, E. H.: Human Physiology, 1915, p. 935.
2. Kuno, Y.: On the Amount of Blood in the Lungs, Jour. Physiol., 1917, **51**, 154.
3. The Stomach in Hunger, editorial, THE JOURNAL A. M. A., Feb. 8, 1913, p. 448; The Gastric Movements in Hunger, Sept. 27, 1913, p. 1044; The Call of the Empty Stomach, Oct. 4, 1913, p. 1300; The Voracity of Certain Diabetics, Feb. 21, 1914, p. 621; New Facts About Hunger, July 11, 1914, p. 169; Stomach Bitters, Jan. 2, 1915, p. 58. Carlson, A. J.: The Control of Hunger in Health and Disease, Chicago, 1916.
4. Meyer, Jacob, and Carlson, A. J.: Contributions to the Physiology of the Stomach, XLIII, Hunger and Appetite in Fever, Am. Jour. Physiol., 1917, **44**, 222.

Luxury in Sanatorium Management.—Among the blots on the history of sanatorium operation in the past has been the tendency to expend large sums of money on the elaborate equipment of quarters for officers, physicians, nurses and employees and to give to the officers the choice rooms and the choice locations in the grounds and buildings. The quarters for physicians and employees should be comfortable and adequately roomy, but the best outlook, the best location, the choice of accommodations, if there be a choice, should be given to the tuberculous patients for whom the institution is primarily intended. The pretentious luxury of officers' quarters in some public sanatoriums has been a lasting disgrace to those institutions and to their creators.—G. T. Palmer, in Illinois *Health News*.

Medical Mobilization and the War

THE MEDICAL OFFICER

Between the living and the dead the Army surgeon stands,
And life, oft hanging by a thread, lies in his skilful hands;
A soldier at his country's call, he draws no faltering breath,
But fights that mightiest foe of all, the final victor Death!

To meet so dread a foe he brings the true physician's mind,
Which holds, above all other things, the reverence for mankind:
Did his own brother wounded lie, tho' toward him he would speed,
He would not pass a foeman by, if his the greater need.

Within his breast, to duty true, no shrinking spirit dwells,
Oft has he served, and fallen too, beneath the screaming shells;
The hope to succour and to save, his one ambitious thought;
If honors come to mark the brave, they come to him unsought.

To snatch from ravening Death his prey with dauntless soul he speeds,
And few the words he has to say—his pity speaks in deeds!
The life within him, tense and clear, from brain to finger runs,
Nor does he heed, nor even hear, the roaring of the guns!

This son of science, rarely found applauding crowds before,
For whom no trumpet-blasts resound, too many oft ignore;
Yet he, upon the storm-swept plain intent alone to save,
And wounded scorning all his pain, is bravest of the brave!

—R. H. G. Osborne.

PLASTIC SURGICAL SCHOOL OPENED

The school of plastic surgery recently created by the Surgeon-General was opened at Washington University, St. Louis, October 15, with twenty-six students. Prof. Robert Terry is superintendent of the school and is assisted by officers detailed by the Surgeon-General.

BUREAU OF MEDICAL SERVICE ESTABLISHED

A new medical bureau known as a Bureau of Medical Service of Foreign Commissions has been established by the American Red Cross to meet the call for medical and surgical supplies for the Red Cross commissions in France, Russia, Italy and Serbia. Dr. Richard M. Pearce of Philadelphia is director of the bureau. This bureau will attend to the sending forward of physicians and nurses as required. Drugs and medical supplies to the value of more than half a million dollars have already been shipped to Russia; three detachments of child welfare specialists have been recruited for service with the new Children's Bureau of the Red Cross in France, and the bureau is also furnishing bacteriologists and chemists and other needed personnel for the Red Cross establishments in Paris.

NEWS OF THE TRAINING CAMPS

Colored Medical Officers' Training Camp at Fort Des Moines

The opening of this medical officers' training camp at Fort Des Moines, Iowa, marked a new departure in the policy of the Medical Department of the Army. Heretofore, except in a few isolated cases of medical officers in colored National Guard organizations, the colored medical officer did not exist. With the establishment of a colored division of the National Army, the need for trained medical officers became urgent. Already there were 1,200 colored men in training at the reserve officers' training camp for service with the infantry of the National Army. Among these were about thirty physicians. These were later transferred to the medical training camp and commissioned in the medical section of the officers' reserve corps.

With the men transferred from the line camp as a nucleus, the school was started, August 27. Soon there were 116 men in training. Of this number, twelve are dentists. These officers come from all sections of the country, as far west as California, as far south as Texas and Louisiana, as far north as Maine, and as far east as Massachusetts. They represent nearly every reputable medical school in the country, Harvard, Northwestern, the Universities of Michigan, Southern California and Pennsylvania, Columbia University, Howard, Meharry and many others, including two schools of homeopathy. A large proportion are hospital trained men, fourteen having served internships in one hospital, Freedmen's, a government institution at Washington, D. C.

With Lieut.-Col. E. G. Bingham, M. C., as commandant, and Majors H. C. Maddux, M. C., and T. Victor Keene, M. R. C.; Captains Morrill, M. R. C., and Axline, M. R. C., and Lieutenants Coates, M. C., and Gatewood, M. R. C., as assistants, intensive training in military discipline, drill, Medical Department "paper-work" and administration was begun. Parallel to the officers' training camp there is a training camp for enlisted men of the Medical Department. There are now in the latter camp about 900 men.

The general plan of the course of instruction was similar to that employed in the other training camps. The routine program has been interrupted from time to time with short hikes for practical work in field sanitation. The excellent and extensive system of trenches constructed on the fort by the student officers of the line camp afforded considerable opportunity for practical work in trench sanitation, and in the care and evacuation of the sick from the first line trenches to the rear. In field problems and map reading and drawing, the terrain of the reservation offered interesting situations.

The most pretentious single incident of the camp was the four day demonstration hike in charge of Major H. C. Maddux, M. C. This hike was started Wednesday morning, October 3, and lasted through to the following Saturday. The whole camp marched from Fort Des Moines through the city of Des Moines to the Iowa State Fair Grounds, a distance of 9 miles. The camp was officially designated "Camp Bingham." The marching column consisted of the instructors mounted, followed by the troops in full marching equipment, with a section of litter bearers. A pack train of ten pack mules with full medical combat equipment followed, and the rear was brought up by a squad of military police.

The marching column swung along the country roads and city streets singing and whistling "Tipperary," "Are You From Dixie?" and many other songs dear to their hearts. The march was made in three hours, and not a man fell out; on the arrival at "Camp Bingham" there was not a sore foot. Three motor trucks loaded with field ranges and cooking utensils preceded the marching column, and within half an hour after tents were pitched a hot meal was served to the weary, yet happy men.

The specific duties were so rotated at the camp that each section had instruction in the various activities of field service, camp infirmary work, pack train detachment duties, sanitary squads and military police. Each day a part of the command was taken to the nearby fields and instructed in the establishment of first aid stations, camp infirmaries, litter bearing on the battlefield, and the application of first aid measures. Especial attention was given to instruction in the rapid and careful evacuation of the wounded to the rear, also in the rapid moving of the first aid station. One detachment completely packed the combat equipment on the pack mule in four minutes and fifty-five seconds, and half an hour later set up the first aid station in less time.

The nights spent at the camp were cold and frosty, and the physicians, old and young, fresh from the comforts of modern civilization, found scant comfort resting on the

bosom of Mother Earth, covered with two thin blankets. Officers, like enlisted men, carried their entire equipment in blanket rolls on their backs; for the sake of the experience their bedding rolls were left at home. After the first night by rustling straw, hay, leaves and newspapers on which to make their beds, the succeeding nights were spent in greater comfort.

Each night huge camp fires were built, and around them crowded the shivering civilian physicians of yesterday. The early part of the night was spent around the camp fire with tales, songs, prophecies and longings; longings to do their bit in the war and return to their families and firesides.

On the morning of October 6, reveille was sounded at 4:30, and preparations for marching back to the fort were begun. The march was to start at 7 o'clock. At this hour every tent had been struck, grounds policed, and officers and soldiers alike stood awaiting the command "Forward—March."

The camp has not been neglected by distinguished visitors. September 18, Colonel Noble, M. C., visited the camp and reviewed the troops as an official representative of the Surgeon-General. His visit was followed by Colonel Legarde, M. C., who delivered a lecture on the "Newer Developments in Military Surgery."

October 15 was memorable because it marked the closing of the "line officers' camp" and the coming of many distinguished visitors. During the day we were given a very inspiring address by Mr. Emmett J. Scott, former secretary to the late Booker T. Washington, and now special assistant to the Secretary of War. Later in the day we were reviewed by Colonel Munson, M. C., Chief of the Medico-Military Division of the Surgeon-General's Office; Colonel Goodwin, R. A. M. C., and Colonel Charles Dircle of the French Army Medical Corps. So impressed were the latter visitors with the camp that at great personal trouble and inconvenience they returned, October 20, for another visit. During this visit we were given a short address by Colonel Munson, and a lecture on "Sanitation in the Trenches" by Colonel Goodwin. That evening we were given an illustrated lecture by Colonel Dircle of the French Army Medical Corps on "Medical Activities on the French Front." Monday evening, October 22, we were shown "The Activities of Our Medical Corps on the Mexican Border" by Colonel Bingham, in moving pictures.

The purely professional instruction has occupied the latter part of the course. We have had practical demonstrations and moving picture clinics in orthopedic surgery and in the treatment of infected wounds by the Carrel-Dakin method of wound sterilization.

The spirit of the camp epitomizes the spirit of the entire colored race in America, in its deep earnestness and desire cheerfully to do its bit in making the world safe for democracy.

At Fort Benjamin Harrison

CAMP GOSSIP

The chief interest of this camp centers around the permanent assignments of medical officers to various stations in this country and abroad which are now being made.

The conditions in the camp are good, notwithstanding the disagreeable, damp, cold weather. The barracks have been made comfortable by stoves, for which the quartermaster supplies an abundance of coal. One can readily understand that he is not generous enough to supply janitors to build and keep these fires going. That work is done by the orderlies who are detailed daily from among the medical officers.

The principle of learning to care for oneself, which is included in the course of instruction, is beautifully illustrated by the above-mentioned task. These things are all part of the work, and to show how well they are "playing the game" is the fact that, besides acting as janitors, the entire policing of our section of the camp is being done by its members. Not the least of these duties is that of keeping in order the long stretches of intersecting cinder paths which have been laid. Heretofore this policing work has been done by the enlisted men of the field hospitals, who have been in training here. Most of such troops, however, have completed their training and have been sent into active work away from this camp, leaving it to the medical officers to do their own work.

The rumor is abroad that the camp will close at the end of November, and in consequence the work of prepartion is being intensified. Instruction in trench warfare, as it applies to the sanitary troops in actual campaign, is given great importance.

TWENTY-FOUR HOURS IN THE TRENCHES

A number of squads, consisting of twelve medical officers, eleven acting as medical corps men and one as captain, are given a tour of duty of twenty-four hours in the trenches. They participate with troops from all other branches of the service, there for a like purpose, in actual night and day battle maneuvers. Each man of these sanitary squads is equipped with all of the latest paraphernalia for such service, and is obliged to carry out in detail the duties of the position to which he is assigned. Of course, when the medical officers reach France or any of the other battle fronts, they will not perform the duties which are imposed on them as here described. They must be taught, however, what is to be expected of the men whom they will later command, and will learn this the more readily by doing it themselves. Hence in this work at this time they are acting as enlisted men. They are equipped as such on these tours of duty, are rationed as such, and also quartered as such, sleeping in a niche in the trench or on the hard planks in the dugout, curled up together to keep warm. They go "over the top" into "No Man's Land," and drag in the wounded just as if they were in actual battle. In this way they learn the possibilities and the limitations, and thus will be in a position to know what may be got out of their men in the future.

"You ask me about my night in the trenches," said Dr. E. W. Ill of Newark, N. J. "It was very interesting indeed, and I will try to tell you what it was like. At roll call in our company, twelve names were read off for this duty, and I noticed that all of the men chosen were under 30 years of age. These twelve were highly elated at being able to have the experience. We were marched, with Seng, one of our number, in command, to Lieutenant-Colonel Shockley, who told us to get our equipment at the medical supply headquarters, and then our blankets and rations. We each received as equipment a knapsack with a myriad of straps, cords, pockets, etc., and a belt with about twenty little packets of many first aid articles—bandages, cotton, gauze, adhesive plaster, etc. The belt also had many little holes in which to hang the hatchets, canteens and other parts of the equipment. For these things we signed a voucher, making us responsible for their return, as the government is very careful of its possessions.

"Before leaving camp we rolled into our blankets a heavy sweater and an Army slicker, and did it neatly for fear of summary punishment if we did not have it right. We received rations for three meals, consisting of six huge ham sandwiches, two hard-boiled eggs with salt, two bars of milk chocolate, a dozen sweet crackers, an apple and an orange, and we filled our canteens with ice water. We put on our heavy woolen underclothes and our trench coats and shoes, and at last got inside of all the other equipment—haversacks, hatchets, canteens, etc.

"At promptly 3 o'clock in the afternoon we collected our six litters, formed three groups of four men each, and began our 2 mile hike to the trenches, as we thought, heavily laden. On arriving there we found that our packs were about 20 pounds lighter than those of the enlisted men of the line. We reported at battalion headquarters, where two of us were left as reserve. The rest were immediately taken into the trenches, where we were given instructions on our duties, and informed that we would go in promptly at 7. While waiting we finished a part of our rations, with some water from our canteens, spread out our litters, took our blankets and sweaters from our packs, and lay down. It was getting cold and beginning to rain. Three or four large companies of the line, in single file, fully equipped, marched by, not a word being spoken except a muttered oath when some one or other stumbled over a tree stump, as there was no light. At 7 we started, but lost our way once, when we got into a drainage ditch instead of the trench, but at last hooked up with the sergeant, and were led to the first shelter, where, with the aid of a pocket light, we found a comfortable hole in the wall, and wrapped up in our blankets and went to sleep. It was so nice and snug that we almost hoped the sergeant would not find us. He did, however, and we were routed out and proceeded along the zigzag communicating trenches until we got to Shelter No. 5, where we were to spend another two hours. Desultory firing was going on all the time, and a few rockets, which were very pretty, were let off, but no wounded were brought back. Two of us tried to sleep on one litter and accordingly got nothing but crossbars for a resting place. It was becoming much colder, and we were also getting more uncomfortable all the time. At 11 we were aroused again to traverse some more zigzag trenches through the mud and water, until we reached Shelter No. 1,

at the front. Here we found two bunks, each about 9 feet long, one above the other, on which we attempted to get some rest. Time dragged on and we had almost given up hope of ever having anything to do when, at 12 o'clock sharp, a great noise informed us that a battle was going on. The sergeant poked his head in and yelled, 'Mac and Ill, there are some wounded to be brought in.' We scrambled out, leaving our blankets behind, and crawled over the top and out to look for wounded. It was very cold by this time, and the ground muddy and soggy, but we knew better than to get too high up, as the combatants were armed with paraffin bullets which some of our companions said 'stung like H——.' I finally encountered a body and said, 'Are you alive?' The man said, 'Yes, but badly wounded in the leg.' I told him to put his arms around my neck and I would drag him in. It was pitch dark, and we encountered rocks, mud, etc., en route, which was, to say the least, disagreeable. At last I saw the sandbags of the top of the trench and thought, 'Well, I will be safe from firing now,' when a flare went up, followed immediately by a fusillade of shots from the 'Germans' at the wounded man and myself. One hit me a stinging blow in the left leg, and I cussed a few times and told my wounded companion to 'scramble for himself.' He did, and we gained the trench without further mishap. The other men of our squad had similar experiences, some being hit in several places. When I got the man back I bandaged up his leg and we transported him to the rear, my own wounds being left undressed. My two other trips were unaccompanied by rifle fire, and I even had time to wrap up and get a little more sleep out in "No Man's Land," safe from the scrutiny of the ever-watchful sergeant.

"Without this actual experience I could not possibly have had other than a vague idea of the duties involved, together with the hardships to be expected. It is needless to say, and I am sure no one will accuse me of being a quitter when I do say it, that I am more than elated that duty in France for me will not be that of the enlisted man of the Medical Corps whom I represented in the battle just described, who goes out not only exposed to infantry fire and bombs, but without any protection whatever. His is the most dangerous work of all, as he is exposed to the fire from both sides. In fact, one of the squads reported on its return that its own first sergeant had been shot twice by our own guards because he was too frightened to halt when ordered to do so; while two other men lost their bearings completely and wandered too far over, where they were captured by the 'Germans.'"

TRAINING CAMP ACTIVITIES

The Commission on Training Camp Activities, appointed last April by the Secretary of War, has issued in pamphlet form a summary of its activities to date. The object of this commission, as stated in the pamphlet, is to supply the normalities of life to a half million young men in the training camps and to keep the surroundings of these camps clean and wholesome. The task is to furnish these young men a substitute for the recreational opportunities to which they have been accustomed, and to prevent and suppress vicious conditions which may arise in connection with the training camps. To carry out these activities the commission is enlisting the services of such existing agencies as the Y. M. C. A., the Knights of Columbus, the Playground and Recreation Association of America, the Travelers' Aid Society, the Young Women's Christian Association and many others. The American Library Association has undertaken the important task of furnishing books, magazines and general library facilities as well as trained librarians for the camps. A special library building is planned for each camp. Recreative athletic work has been placed in charge of a director, and supervision of the work in each camp will be looked after by an official athletic council. The manly art of boxing will be included, and the services of such disciples of the fistic art as James J. Corbett and "Kid" McCoy have been enlisted. Baseball and other athletic games are also provided for. Post exchanges for soldiers, and cooperative stores have been established in each camp. Camp music has been planned, with song leaders, and the singing of songs is especially to be emphasized among the soldiers. A song book, "Songs of the Soldiers and Sailors," has already been published. Dramatic entertainment will also be provided. A fully equipped modern theater building seating 3,000 is being erected at each of the national camps. The organization of programs for these entertainments has been placed in the hands of leading theatrical managers of the country, and the best talent will be employed. The Redpath Entertainment Bureau has already been giving entertainments in the various camps. Educational work has not been neglected. There will be courses in English, French, French geography and other subjects, and an educational campaign in sex hygiene through the agency of the American Hygiene Association and the Y. M. C. A. There will also be a considerable degree of supervision over the recreational activities of the soldiers in the cities and towns adjoining the camps. With the aid of many state (public and semi-public) agencies, the control of prostitution in the neighborhood of the Army camps has been attacked, and already important results have been accomplished in the way of the abolition of "red light districts" and the supression of vice in many of the cities surrounding the Army camps. The personnel of the commission is as follows: Raymond B. Fosdick, New York, chairman; Lee F. Hanner, New York; Thomas J. Howells, Pittsburgh; Marc Klaw, New York; Joseph Lee, Boston; Malcolm L. McBride, Cleveland; Dr. John R. Mott, New York; Charles P. Neill, Washington, D. C.; Lieut.-Col. Palmer E. Pearce, U. S. Army, and Dr. Joseph E. Raycroft, Princeton University, with Jasper J. Mayer, secretary to the commission. The funds to support this great work will come from private subscription through the organization named, from various state, municipal and other organizations in the extension of their regular lines of work, and in some instances from government grants in the way of salaries, etc. Some of the entertainment features are expected to be self-supporting through nominal admission charges. The Navy Department has a similar commission, of which Mr. Raymond B. Fosdick is also chairman. A report of the latter commission is soon to be issued.

NEWS OF THE CANTONMENTS

Thirty-First Division, Camp Wheeler, Macon, Ga.

With the arrival of 10,000 drafted men, the amount of sickness has greatly increased, especially measles. Measles had existed in all regiments for a year continuously. The draft men brought in cases on every train. Fortunately there have been almost no complications or sequelae.

The camp is being visited almost daily by the officers or agents of various committees and organizations interested in the welfare of the Army. Some of these bodies are of real value; others of the visitors never accomplished anything more than making reports.

Pneumonia is the disease of the camp. Fifty-one patients have entered the hospitals, with three deaths to date. Many of the patients are by no means out of danger. The strength of the command has passed the 21,000 mark. The commissioned personnel of the division is now in excess of authorized strength. The enlisted personnel is 75 per cent. strength.

A reception and luncheon was given by Mrs. Charles Holt in Macon for General Steiner, Major Weeden, M. C., and others, Wednesday evening. Many from the camp attended.

Lieutenant Miner of the Sanitary Corps addressed the officers at the medical school on the subject of vice suppression, Thursday. Vice suppression is a live question in this camp. Macon is not at all clean, and there is much venereal disease. Captain McCampbell, M. C., of the Surgeon-General's Office, was also here working along the same lines.

ONE HUNDRED AND SIXTH SANITARY TRAIN

In the assignment of new officers of the Medical Reserve Corps just arrived from the medical officers' training camp, Fort Oglethorpe, the complement of all companies is now complete. Wednesday afternoon, a field problem on a small scale was planned by the division surgeon and carried out with fair success. The participating units were the Sanitary Detachment of the One Hundred and Eighteenth Field Artillery, under Major Taylor, who performed the duties of the regimental surgeon; the Florida and Georgia field hospitals, which furnished sixty men, acting as patients; and Ambulance Company No. 122, under Captain Blackwell, which established the dressing station and evacuated the wounded from the regimental collecting station by litter to the dressing station, and thence by ambulance to a theoretical field hospital established at the camp. While many rough edges were noted and much to criticize was found, all felt that the afternoon was profitably spent.

The weekly social of the officers of the train with ladies was held, Hallo'een. The party took the form of a dinner-dance, dinner being served at 6 o'clock in the mess hall of the One Hundred and Twenty-First Ambulance Company which was very prettily decorated with autumn foliage.

An interesting lecture was given by Lieutenant Miner of the Sanitary Corps, Thursday afternoon, November 1, on the work being done in repression of vice in the cantonment zones.

Many of the officers of the train, with ladies, attended an invitation dance given by the officers of the One Hundred and Twenty-Fourth U. S. Infantry at the Hotel Dempsey, Saturday evening, November 3.

Fortunately the train has so far escaped the outbreak of measles that has been so evident in other sections of the camp. We are "tapping wood."

Seventy-Seventh Division, Camp Upton, Yaphank, N. Y.

The medical work in this cantonment has been dominated during the past two months by the physical examination of the men of the National Army. These men have reached the camp in increments of at times from 2,000 to 3,000 in a single day, and orders have required that this entire number should be examined, and their necessary papers made out in one day so that they might be examined, mustered in, assigned to organizations and in uniform the third day after their arrival, inclusive. The amount of stress imposed on the medical staff by the rapidity of this work has placed a severe tax on both officers and men and has obligated to a certain extent relative neglect of other work, such as regular drill and instruction.

The camp has been singularly free from serious infectious diseases. Measles, which has been and still is one of the most serious contagions in military encampments, has been present, but ten cases only have occurred, eight of which occurred in a single organization and apparently from a single focus of infection. No secondary cases have as yet developed, and at present a single patient remains in hospital convalescing. No diphtheria cases have been discovered and yet the Schick test which was applied in about 3,000 instances showed the usual percentage of susceptibility to this disease. One man with pertussis entered the camp with an increment of the National Army, but there have been no secondary cases. One case of mumps only has been reported and there have been no instances of either typhoid or paratyphoid fever, though sporadic cases were fully expected. Examinations for carriers are under way, but thus far results have been fortunately negative.

Owing to the fact that the base hospital unit is still building and untenantable, this institution has been housed in ordinary barracks, frequently moving from one to another as they have been displaced by the military organizations normally assigned to these buildings. Within the next ten or fourteen days it is expected that the most essential buildings of the base hospital will be in such condition that a last move may be to this unit of over seventy buildings which in every way is ideally adapted to the needs of the service. The buildings, although hastily constructed, are well made, conveniently arranged and equipped with practically every convenience to be found in the most modern civil hospitals.

A regular course of lectures and instruction on military medicine has been started under the supervision of Lieutenant-Colonel Reynolds, the division surgeon, and additional arrangements have been made for clinical demonstrations, papers and lectures by the various departments of the hospital. Regular sessions of a base hospital medical society under the direction of Major Jay Whitham, commandant of the base hospital, have been projected, and in addition to the work presented by the various members of the staff, members of the profession from New York City and elsewhere will be on our programs. The regular meeting of the medical section of the New York Academy of Medicine in New York City was given over to the staff of the Upton Base Hospital on October 16, and by invitation of the president of the New York Academy of Medicine the program of the February open meeting of the academy will be given by members of the various staffs of this hospital.

The members of the dental staff at Upton are holding regular meetings of a dental society in which the program and clinics are given both by members of the local staff and by outside talent. The location of this camp, so accessible to New York, has made it possible to keep these activities of a very high scientific grade. The hospital library will include all modern standard textbooks and all the current native and foreign journals will be at hand.

Eightieth Division, Camp Lee, Petersburg, Va.

There are now 175 medical officers on duty at Camp Lee, only three of whom are of the regular Medical Corps, Division Surgeon Lieut.-Col. Thomas L. Rhoads, M. C., Division Sanitary Inspector Henry P. Carter, M. C., and Major Ferdinand Schmitter, M. C., commanding officer of the base hospital. Fortunately for these three medical officers and the welfare of the Eightieth Division, nearly all of the 175 medical reserve officers have had training at one of the medical officers' training camps, the greater number of them having been at Camp Greenleaf, Ga. The training there was of great assistance, though a marked change in the character of the work took place at Camp Lee. Lieut. S. W. Tunnell of Philadelphia describes his first few days quite graphically:

At 8 a. m., I received orders to report to Colonel ——, at depot brigade. At 8:30 I reported, and was instructed to be prepared to examine three battalions, 1,800 men that were expected at noon, in just three hours and a half. Note.—Absolutely barren, unfinished buildings, supplies at 2 miles' distance, roads muddy to the junction of the lower to the middle third of leg, no transportation.

10:30 a. m. (two hours later): "Sir, we are prepared to begin examinations." On receipt of order assigning me as surgeon to the depot brigade, I walked for one-half hour through the most affectionate mud that one could imagine and located my commanding officer. Lieutenant, "Reporting for duty, Sir." Six little words were all that I volunteered to exchange for the following volley fired after one squint at a little note book. "You are assigned to me as senior surgeon. You will have as your assistants [here he named two other medical officers]. We expect 1,800 men at noon today and you must be prepared to examine them. There is the infirmary over there [pointing to a two story wooden building]. It is absolutely empty, in fact it isn't finished, and there is no equipment available. You may borrow, beg or steal (borrowing without knowledge of owner), but you must be prepared to begin examinations at 12 o'clock."

There was not the slightest doubt in my mind that the colonel meant just exactly what he said. I then conversed two more words, "Yes, sir," saluted and departed. About that time the other two officers reported and we were off. In five minues we had twelve empty nail kegs which we officially took as office chairs, sent one officer to the medical supply depot, a mile and a half away, for triple typhoid vaccine, smallpox vaccine, and an emergency recruiting outfit. We sent another officer with a requisition for stationery supplies to the quartermaster 2 miles away. This left four officers. Two gas pipes immediately became hammers, nails became plentiful when a dental surgeon eased a carpenter's toothache by plugging a cavity with a piece of cotton from a nearby field with a nail. In fact, that is how we learned where the nails were. Scrap boards spontaneously jumped into table tops and a leg flew on each corner. We walked through the officers' quarters, and as there was no one at home, we borrowed two more tables and two benches. We found a tomato can and made a half pint of ink with some ink tablets which an officer carried for his fountain pen. We found a plumber working close by with a foreign body in his right eye, and while I was removing the particle some one of the officers borrowed a dozen plugs for gas pipes from his kit, which we used for ink wells. To our fountain pen brigade we added a dozen penholders made with a penknife from sticks in case there were no others available. We gathered some more cotton from the field and stole a cake of soap to cleanse the arms from vaccinations. We telephoned to an ambulance company to borrow twelve enlisted Medical Department men to use as clerks and help run the infirmary. About this time one of the officers returned from the medical supply depot with our vaccines, recruit outfit, cotton syringes, eye card and finger print outfit. The other officer returned with real stationery, and we then proceeded to consolidate the ground that we had gained. In two hours' time we had generated our equipment from nothing and established a system which later examined 329 men in one day.

The draft men did not begin to arrive until about 5 o'clock in the afternoon, when we immediately examined for contagious disease. The physical examinations we postponed until morning because we had no lights. Our borrowed enlisted Medical Department personnel arrived that night. We drew their beds from the supply officer and had them attached to the battalion for mess. Each man immediately became a clerk, assigned to their desks and instructed in their work. The following morning our complete force reported for duty at 7 o'clock, and the wheels of a polished system began to grind out examinations.

FIELD HOSPITAL NO. 318

This company was organized, July 1, 1917, in the medical officers' training camp at Fort Oglethorpe, Ga., by Lieut.-Col. R. L. Carswell, M. C., provisional director of field hospitals, and was placed in charge of Lieutenant Comfort, N. G. Conn., assisted, after July 10, by student commissioned officers. Capt. Elliott B. Edie, M. R. C., was made commanding officer, August 6, and the commissioned personnel completed by assignment of Capt. William D. Hunter, M. R. C.; Lieut. J. H. Boyles, M. R. C.; Lieut. L. F. Boland, M. R. C.; Lieut. M. I. Mendeloff, M. R. C., and Lieut. P. J. Bean, M. R. C. The enlisted personnel was received from the recruit camp.

A field hospital with its horses and wagons, fourteen tents and field kitchen looks so much like a Wild West show that the observer instinctively looks for the Indians and the Deadwood stage coach. The company participated in two reviews during the last week of August. These were regarded as part of the graduation exercises of the medical officers' training camp, and every officer and enlisted man marched past the reviewing officers with a feeling of pride that he was a member of the first class to graduate from Colonel Page's university. Field Hospital No. 318 entered the National Army cantonment at Camp Lee, Va., August 27,

being one of the few organizations with an enlisted personnel. The company was called on for details of men for special duty, varied in kind, but all a part of the great task of preparing for the reception of the selected men. This work now being completed, the "details" have been returned and the reunion of the company was celebrated in the company mess rooms on the evening of October 25. Short talks were made by the officers, and a musical entertainment was given by the men. Announcement was made of the final result of the Liberty Loan campaign. The per capita subscription of the company was $81, nearly $20 more than Camp Lee's average. It is expected that the sanitary train will be completed about November 1 by the organization of three field hospitals and one ambulance company, with officers from Fort Oglethorpe and men from the depot brigade. The officers and men of the Three Hundred and Eighteenth look forward with pleasure to a resumption of regular training in the duties of the sanitary soldier, and hope to be of service in the instruction of the new companies.

AMBULANCE COMPANY NO. 319

This organization, now a unit of the Three Hundred and Fifth Sanitary Train, Eightieth Division, had its origin in a persistent and insistent appeal of Richmond chapter, American Red Cross, through its president, at the time Henry W. Anderson, now in charge of the Roumanian commission. This appeal thus forcefully made to the headquarters of the American Red Cross at Washington during the earlier part of July received favorable consideration, and, July 10, authority was granted by Lieut.-Col. C. H. Connor, in charge of the organization of all the Red Cross ambulance companies, to Richmond chapter to form and equip a unit, to be known as the Red Cross Ambulance Company No. 46.

Pursuant to an order from the division surgeon, in accordance with instructions from the Surgeon-General's Office, October 15, numbering of the ambulance company was adjusted. No. 46 ceased to be, and the number 319 was given. The officers of the organization were chosen with the object of furnishing the command with men especially fitted to instruct the personnel along the lines that make for excellence in ambulance work. The commanding officer, Lieut. C. H. Lewis, is from Richmond. The junior surgeons are Lieut. George S. Hurt, Kentucky; Lieut. Julius J. Hulcher, Richmond; Lieut. Oliver C. Brunk, Richmond, and Lieut. Ray A. Moore, Richmond. The enlisted personnel is as diversified as it is remarkable intellectually. Great care was exercised in the selection of these men for this service, and as a result experts from every conceivable line of human endeavor can be found: mechanics, chauffeurs, carpenters, pugilists, lawyers, physicians, chemists, clerks, football artists; a fat man so fat that S. O. is necessary to outfit him; thin men so thin that they would have to suffer a fracture to reduce.

AMBULANCE COMPANY NO. 317

Ambulance Company No. 317 was organized as Red Cross Ambulance Company No. 43 of Raleigh, N. C. The original promoters were John G. Allen, Raleigh, N. C., and Kenneth R. Ellington, New York (a Tar Heel by birth). The former is now a first lieutenant in the Signal Corps, and the latter an ensign in the Navy.

The officers are Charles L. Scott, Sanford, N. C., University of Maryland, 1899, commissioned as First Lieutenant, M. R. C., June 8, 1917, and Captain, M. R. C., August 21; Vance P. Perry, M. C., Va., 1916, Kinston, N. C., commissioned First Lieutenant, M. R. C., in July; Dewitt D. Clark, Clarkton, N. C., commissioned First Lieutenant, August 1, and Neil G. Nicholson, M. C., Va., 1917, Mount Gillead, N. C., commissioned First Lieutenant, Sept. 1, 1917.

The volunteer enlisted men are from middle and eastern North Carolina, and range in ages from 18 to 40, representing some of the best blood and oldest families as well as individual specimens of manhood and intellect.

Eighty-Fourth Division, Camp Zachary Taylor, Louisville, Ky.

Seven companies of the Three Hundred and Thirty-Sixth Infantry are quarantined on account of measles. Hundreds of relatives visited the camp, Sunday, but were unable to get closer to the barracks than to talk to the men across a little ravine back of Company F's quarters. Several thousand visitors, many bearing flowers and edibles for the sick soldiers, visited the base hospital. Four cases of cerebrospinal meningitis have been reported from the regiment. The medical detachment of the regiment under the command of Capt. C. C. Osborn is working night and day to stop the epidemics of measles and meningitis. Lieut. J. D. Holston daily examines more than 2,000 men, looking for suspects. Lieuts. Samuel R. Laubscher and Charles H. Davis are kept busy with a corps of men spraying the throats of every man in the regiment to prevent infection.

The office building and barracks which have been constructed for the use of the British and French officers detailed to the camp were completed last week.

Physicians, social workers and laymen interested in the treatment of social questions met at the Seelbach Hotel, October 31, to discuss steps to be taken for the prevention and treatment of venereal diseases among the soldiers at Camp Zachary Taylor. The meeting was called by Edward H. Griffith, representative of the War Department. One of the chief speakers was Col. John H. Allen, division surgeon, who told of the work already done by the authorities at the camp toward the suppression of disease, and Major L. D. Frick, who urged the reporting of vice diseases by physicians.

Col. S. B. Pearson holds the record for rapid promotion from Captain to Lieutenant-Colonel since arriving at Camp Zachary Taylor. He is a cavalry officer, twenty-two years in the service, and is camp quartermaster. Under his direct supervision is the camp bakery, in which the principal article of the soldiers' food is prepared. Every day the force under him bakes 10,000 loaves of white wheat bread, enough to feed 30,000 men three times a day. The ration allows each man a pound of bread a day, which it has been found is slightly in excess of the actual consumption. Once a week the student bakers prepare what is known as war bread, a loaf that has a heavy crust and weighs 4 pounds. This heavy crust has been found by the French to facilitate shipment, as it prevents breaking and crumbling.

BASE HOSPITAL ACTIVITIES

Mrs. Leonard Wood, wife of Major-Gen. Leonard Wood, and Mrs. Draper, of New York, were recent visitors at Camp Zachary Taylor, in the interest of the Red Cross. They expressed pleasure in finding the base hospital in such excellent condition. Mrs. Wood complimented the site on which the camp is located, and said she considered it an ideal place for the training of soldiers. They are visiting the army camps of the United States in the interest of the Red Cross.

The base hospital laboratory is now fully equipped, and it is doing excellent work. All patients with pneumonia are examined to identify the type of pneumococcus. In two cases the types have been identified as I and IV, and the appropriate serums used. An ample supply of white mice has been obtained for this work.

A most comprehensive plan of examination has been outlined of all the drafted men from eastern Kentucky for hookworm, with probably an examination of all of the Kentucky troops later on. This will be done under the supervision of Captain Fox. It is estimated that 200 specimens can be examined a day, and those men in whom hookworm is found will later be examined by Major Hamburger physically and by the psychologic board also, a careful record being made of each case.

A number of interesting cases are under observation in the base hospital. Several cases of cross-infections have been encountered. One man had a very severe discoloration of his skin from a catarrhal jaundice, and on the eighth day was admitted to the contagious ward with measles, presenting a measles rash of peculiar color. Another patient had mumps with a bilateral orchitis following, and later a typical typhoid. To this man two prophylactic injections of typhoid vaccine had been given. One man had a severe cardiospasm, with subsequent relief from esophageal dilatation. An officer was admitted with severe bleeding from a duodenal ulcer. The roentgen ray is being used to great advantage in all these gastric cases.

Owing to the number of cases of measles, four isolation wards have been opened. The following is a record of the severe cases in the hospital, November 4: meningitis, 4; measles, 94; pneumonia, 21; typhoid fever, 4; mumps, 12, and diphtheria, 1. Two perfectly well meningitis carriers have been found and isolated.

It is the purpose of Major Hamburger to have all tincture of digitalis used at the base hospital standardized on the cat by the method of Hatcher and Eggleston, and as outlined by Lieut. Willard J. Stone. This will be done by Prof. C. O. Zahner in the Department of Physiology of the University of Louisville Medical Department.

SPECIAL EXAMINING BOARDS

A board of psychologic examiners has been convened at Camp Zachary Taylor, which is one of the four camps chosen

by the Medical Department of the Army for this work to be done in. The entire army here will be standardized by putting each man through certain physical and mental tests, so that they may be properly classified, artisans properly assigned, etc. More will be written of this work later. It is under the supervision of Lieut. Marion R. Trabue, S. C.

All of the men are now being examined by a special board of ten examiners for tuberculosis under the supervision of Capt. M. J. Lichty.

PERSONALS

Major Worthington has instituted food conservation in the officers' mess at the base hospital, meatless and wheatless days, and certain meals without butter. Those who help themselves to butter in quantities too bounteous, and leave some uneaten, are specially reported by the mess orderlies.

An order has been issued prohibiting officers and enlisted men from entering certain districts in Louisville, and has been read to each organization in camp. Any man found in these districts will be arrested by the members of the provost guard or military police. One of the unused city police stations has been equipped and used as headquarters for the military police.

Dr. Fred L. Koontz, M. R. C., spent a few hours in Louisville last week en route from Fort Oglethorpe to Philadelphia, to which city he has been ordered for a course of intensive training in head surgery at the University of Pennsylvania Hospital under Drs. Frazier and Spiller.

Dr. John B. Richardson has been ordered to Bellevue Hospital for a course in fractures.

Miss Helen Pond of Framingham, Mass., a dietitian, has reported to Major Worthington of the base hospital. She is a welcome addition to the staff of the hospital.

Lieut. James W. Bruce, M. C., Louisville, was married at 5:30, November 5, to Miss Edith Campbell, daughter of Mr. and Mrs. Charles D. Campbell, at Christ Church Cathedral. The wedding, originally set for December, was hurried because of Lieutenant Bruce receiving traveling orders.

Eighty-Fifth Division, Camp Custer, Battle Creek, Mich.

LIBERTY LOAN

The "Liberty Loan" proved of considerable interest from a competitive standpoint during the last week. The division subscribed $1,389,750. This figure is high, considering that the division is at less than half strength. The sanitary personnel of the division has accomplished a wonderful showing. Base hospital, $21,050; field hospital, $29,300; ambulance companies, $38,050. In the field hospitals, Field Hospital No. 340, under the command of Capt. J. D. McGaughey, showed the largest subscription average of $103 for each man in the company. The general average for all field hospitals was over $97 per man.

SANITARY TRAIN

The medical personnel of the sanitary train is now complete, so that the training of the sanitary troops is progressing rapidly. Although the rainy weather has in some respects handicapped outside work, it has in no way brought it to a complete standstill. The men seem to get along just as well in the rain as they do on clear days, due entirely to the unusual enthusiasm that seems to exist among them. It is not such a difficult task as one might expect in training these men in the duties of nurses, the operating room assistants and ward managers. They seem to grasp the subject pertaining to medicine and surgery very rapidly indeed and in quizzes seem to answer up as well as some medical students in their first and second years. There is no doubt that these men will be ready to fill the various places when the time comes for active service.

NOTES

Major Wood, commanding officer of the base hospital, read a paper before the Kalamazoo Medical Society, October 23, on "The Organization of the Base Hospital." His paper was exceedingly interesting and covered the matter thoroughly in every detail. The meeting was well attended, both by the members of the society and officers from the camp.——Majors Irons and Frick of the base hospital were in Chicago attending the meeting of the Clinical Congress.——Capt. W. P. Nicolson, Jr., of the 338th Ambulance Company recently spent two days in Chicago.

Eighty-Seventh Division, Camp Pike, Little Rock, Ark.

A recent order transferring enlisted men from this cantonment, in order to fill up the necessary quota in the National Guards of their respective states, has wrought temporary havoc with the enlisted personnel of the sanitary train. The present indications are that with the exception of the Red Cross ambulance companies and a small detachment of regular Army men brought here from Fort Riley, Kan., that the train will be compelled to part with most of its men.

Major R. H. Davies of Chicago, who is assistant adjutant of the sanitary train and acting director of field hospitals, is living in hopes that the contingents from the northern camps who are to be brought here will be of such excellence as to more than balance the loss of men and training time entailed by this transfer.

November 1 has been officially set as the date for the beginning of a comprehensive course of training for the enlisted and commissioned personnel of the medical department in this division. Major R. H. Davies is to have general supervision of the training under the direction of Lieut.-Col. Robert M. Thornburg, division surgeon, and his assistant, Major R. R. Jones of Fort Oglethorpe and Pittsburgh. The course in gas defense, which will be very complete, will be given by Captain Gussow, who is attached to the division surgeon's office and sent here from the school for gas defense at Fort Sill, Okla.

Colonel Chamberlin of the Surgeon-General's Office made a sanitary inspection of Camp Pike, Sunday, October 28. It would have been difficult to find anything resembling dirt in the sanitary train area for some hours before his arrival.

A lieutenant-colonel, a line officer, who visited the area a few days ago, said that this section of the camp had made more elaborate and successful effort at beautifying their surroundings than any other part of the camp which he had visited.

It "spoke well" he said for the "spirit" of the medical personnel. One thing is certain, no branch of the service has shown a greater willingness to do their full duty than have the medical profession who have left their "all" and have entered on this strenuous and in a way very unnatural existence.

One is vividly impressed with the difference between an enlisted personnel acquired by choice and one acquired by draft in the comparison of the Red Cross Ambulance Company of Topeka, Kan., now a part of the sanitary train, with the material many of the companies here may have to work with. This company is commanded by Lieutenant Lerrigo of Topeka, a member of the Kansas State Board of Health and an author of note. His four junior officers are all graduates of Washburn College and a large percentage of the 118 members of this company are from the same institution.

These men give a "sing" every Tuesday night in their barracks, which is very largely attended by the officers of the sanitary train.

Last week Liberty Loan Day was observed by the 312th Sanitary Train. The exercises were in charge of Capt. J. B. Steele, M. R. C., of Chattanooga, and an address was delivered by a prominent attorney of Little Rock. Over $10,000 was subscribed by the members of the train.

Health conditions are in general good in the Eighty-Seventh Division. The epidemic of measles seems to be abating somewhat.

Among those who have been notified of their promotion recently are Lieut. R. H. Davies of Illinois and Capt. J. W. Thornton of Iowa to the rank of Major, and Lieuts. J. B. Steele of Tennessee, A. J. Lyons of Illinois, C. A. Richards of Wisconsin and Paul R. Howard of Nebraska to the rank of Captain.

DISEASE CONDITIONS AMONG TROOPS IN THE UNITED STATES

Extracts from Telegraphic Reports Received in the Office of the Surgeon-General for the Week Ending Oct. 26, 1917

1. Total strength of troops 1,000,971
   Admission rate per 1,000 (disease only) ..... annual 927.5
   Non-effective rate (all causes) 22.8
2. National Guard-strength 315,717
   Admission rate per 1,000 all camps (disease only) .. annual 1,056.8
   Non-effective rate all camps (all causes) 26.1

The following camps show admission rate for disease higher than average: Wheeler, Beauregard, A. L. Mills, Cody, Kearney, Sevier, Doniphan, Shelby and Bowie.

The following camps showing non-effective rate higher then average: Beauregard, A. L. Mills, Wheeler, Shelby, MacArthur and Bowie.

3. National Army—strength 413,717
   Admission rate per 1,000 all camps (disease only) .. annual 900.4
   Non-effective rate all camps (all causes) 18.7

The following camps show admission rate for disease higher than average: Pike, Dix, Travis, Jackson, Lewis and Dodge.

The following camps show non-effective rate, all causes, higher than average: Pike, Lewis, Dix, Dodge and Travis.

4. Venereal Disease:
   Admission rate regulars 63
   Admission rate National Guard (camps) 134.5
   Admission rate National Army 138.7

The following camps, National Guard, have rate above average: Wheeler, Sheridan, Sevier, A. L. Mills, Logan and Bowie.

The following camps, National Army, have rate above average: Pike, Jackson, Dix, Lee, Travis, Lewis and Gordon.

5. Number of cases of pneumonia 263
   Highest number in any one camp ..... Taylor 33
Number of cases of meningitis 35
   Highest number in any one camp ..... Dodge 4

6. SPECIAL DISEASES REPORTED DURING THE WEEK ENDING OCTOBER 26, 1917

Division	Pneumonia	Dysentery	Malaria	Venereal	Paratyphoid	Typhoid	Measles	Meningitis	Scarlet Fever	Strength of Command
27th, Wadsworth..	..	..	..	62	..	..	..	..	..	29,529
28th, Hancock....	..	..	..	52	..	..	..	1	..	28,632
29th, McClellan....	1	..	..	43	..	..	8	1	..	25,148
30th, Sevier.....	8	..	2	104	..	..	169	2	..	22,817
31st, Wheeler.....	22	1	15	119	..	..	164	1	..	19,919
32d, MacArthur..	1	1	..	2	..	..	1	..	..	23,517
33d, Logan.....	7	..	25	66	1	..	..	..	1	21,658
34th, Cody.....	7	2	..	40	..	..	8	..	..	22,830
35th, Doniphan....	2	..	4	44	..	..	1	..	..	25,135
36th, Bowie.....	24	..	..	66	..	11	75	..	..	21,789
37th, Sheridan....	3	..	..	178	..	..	12	1	..	24,051
38th, Shelby.....	11	1	8	48	..	..	22	2	..	21,832
39th, Beauregard..	5	..	1	6	..	..	14	..	..	6,437
40th, Kearney.....	4	..	..	5	..	..	4	..	..	13,331
41st, Greene*.....	..	..	..	..	..	..	..	..	..	.....
4.d, A. L. Mills..	1	..	4	31	..	..	1	..	..	5,092
76th, Devens.....	3	..	1	7	..	1	4	..	..	30,966
77th, Upton.....	1	..	..	35	..	..	..	..	..	29,843
78th, Dix.....	1	..	..	94	..	..	..	..	..	20,040
79th, Meade.....	..	..	..	5	..	..	..	..	..	17,990
80th, Lee.....	..	1	..	132	..	..	..	3	..	28,253
81st, Jackson.....	6	10	6	84	..	..	64	..	..	14,380
82d, Gordon.....	1	..	..	39	..	..	11	..	..	14,188
83d, Sherman.....	22	1	..	34	..	..	1	..	..	32,579
84th, Taylor.....	33	..	..	30	..	..	33	..	..	26,612
85th, Custer.....	1	..	..	6	..	..	19	..	..	17,921
86th, Grant.....	12	..	..	21	..	..	..	..	1	27,218
87th, Pike.....	5	2	32	292	..	..	216	1	..	22,424
88th, Dodge.....	3	..	..	15	..	..	5	4	..	22,484
89th, Funston.....	13	..	1	42	..	..	1	4	1	37,899
90th, Travis.....	17	..	9	130	..	..	..	..	..	29,892
91st, Lewis.....	1	..	..	146	..	..	1	1	..	35,930

* Not reported.

	Regulars, U. S. Army, in U. S. only, 1916		All Troops in U. S. week ending Oct. 26, 1917		Nat'l Guard, All Camps, week ending Oct. 26, 1917		Nat'l Army, All Camps, week ending Oct. 26, 1917	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Admissions, diseases only, annual rate per 1000	....	613	....	776.6	....	1056.8	....	900.4
Pneumonia.....	....	2.50	25	6.2	96	15.8	119	14.9
Dysentery.....	....	3.97	1	0.2	5	0.8	14	1.7
Malaria.....	....	12.62	19	4.7	59	9.7	49	8.1
Venereal.....	....	91.0	254	6.3	817	134.5	1104	138.7
Paratyphoid.....	....	0.31	0	0	1	0.1	0	0
Typhoid.....	....	0.21	0	0	11	1.8	1	0.01
Measles.....	....	20.29	80	19.8	479	78.8	355	44.6
Meningitis.....	....	0.29	5	1.2	8	1.3	13	1.6
Scarlet fever.....	....	0.59	16	3.9	1	0.1	2	0.2

7. Deaths by Causes:

Pneumonia, lobar	22
Cerebrospinal meningitis	6
Chronic interstitial nephritis	1
Parenchymatous nephritis	1
Acute nephritis	1
Tubercular meningitis	1
Diabetes mellitus	1
Entercolitis	1
Gastritis, toxic	1
Peritonitis	1
Appendicitis	1
Erysipelas	1
Anesthetic (ether)	1
Abscess, multiple, right kidney	1
Suicide	6
Traumatism by firearms	2
Traumatism by automobile	1
Traumatism by crushing	1
Traumatism	1
Surgical shock	1
Cause not reported	2

ORDERS TO OFFICERS OF THE MEDICAL CORPS

Major EDWARD W. LAZELL, Colorado N. G., specialist in nervous and mental diseases, to be relieved from duty with Field Hospital Company No. 4, Camp Mills, Garden City, L. I., N. Y., and to report in person *to the commanding general of the camp hospital* and to the commanding officer of Base Hospital No. 36, *United States Army General Hospital No. 1, New York, N. Y.*, for duty in his specialty.

Lieut.-Col. GEORGE N. CRABTREE, U. S. Army, retired, now on duty as assistant chief surgeon, Aviation Section, Signal Corps, U. S. Army, Washington, D. C., in addition to his present duties to be assigned *to temporary duty as Attending Surgeon, Washington, D. C.*, during the absence of Lieut.-Col. Theodore C. Lyster, Medical Corps.

Major WILLIAM K. BARTLETT, now at Walter Reed General Hospital, Takoma Park, D. C., to be relieved from station at Fort Des Moines, Iowa, and directed to report in person *to the commanding officer of Walter Reed General Hospital, Takoma Park, D. C.*

Major CHARLES E. DOERR upon the arrival of Major Osgood at Fort Ontario, N. Y., to be relieved from duty with Field Hospital No. 28, Fort Ontario, N. Y., and directed to proceed *to Fort Ethan Allen, Vt.*

Major BENJAMIN B. WARRINER, now on duty in connection with aviation, to be assigned *to duty with the Aviation Section, Signal Corps, at S. C. Aviation School, Mineola, L. I.*

Lieut. NICHOLSON F. CURTIS, now on duty in connection with aviation, to be assigned *to duty with the Aviation Section, Signal Corps, at S. C. Aviation School, Mineola, L. I.*

Major JOHN T. AYDELOTTE to be relieved from duty at Fort D A. Russell, Wyoming, and directed to proceed *to Fort Sam Houston, Texas.*

Lieut. JAMES I. GLOAT to be relieved from duty at Fort Bliss, Texas, and directed to proceed *to New York, N. Y., Port of Embarkation.*

Major EDGAR D. CRAFT, U. S. Army, retired, to be relieved from duty at Camp Dodge, Des Moines, Iowa, on arrival of Major Alexander T. Cooper, Medical Corps, and directed *to report by wire to the commanding general, Western Department, for assignment to duty.*

Major SIDNEY L. CHAPPELL, now on duty at Fort Benjamin Harrison, Ind., to be directed to proceed *to Madison Barracks, N. Y.*

Lieut. GERALD C. BATES, N. G., Adrian, Mo., to be ordered to active duty and directed to proceed to Fort Sill, Oklahoma, and report in person *to the commanding general, Camp Doniphan*, that place, for duty.

Major JOHN P. FLETCHER, now on duty at the Motor Ambulance Depot, Louisville, Ky., *to proceed to Washington, D. C.*, and report in person to the Surgeon-General of the Army for consultation.

Major CHARLES T. KING to be relieved from duty with the 57th Infantry, Fort Sam Houston, Texas, and directed to proceed *to Camp Mills, Garden City, L. I., N. Y.*, for duty as commanding officer of the base hospital.

Lieut. LLOYD E. TEFFT to be relieved from duty at Fort Grant, Canal Zone, and directed to proceed *to Camp Mills, Garden City, L. I., N. Y.*

Capt. HARRY J. O'BRYAN, N. G., Watertown, S. D., *to proceed to Fort Snelling, Minn.*

Major WILLIAM B. BORDEN to be relieved from duty at Madison Barracks, N. Y., and directed to proceed *to Fort Benjamin Harrison* for the purpose of organizing and commanding Hospital Train 20.

Major JOHN W. MEEHAN to be relieved from duty at Syracuse, N. Y., and directed to proceed *to Fort Benjamin Harrison*, to organize and command Hospital Train 21.

To report before the president of the board appointed in Paragraph 19, Special Orders, No. 50, War Department, March 2, 1917, for examination for promotion, Col. HENRY D. SNYDER, office of the Surgeon-General of the Army, Washington, D. C.; Majors WILLIAM K. BARTLETT, Walter Reed General Hospital, Takoma Park, D. C.; WILLIAM A. DUNCAN, office of the Surgeon-General of the Army, Washington, D. C.; and PAUL L. FREEMAN, Fort Meyer, Va.

Major HERBERT C. GIBNER, now on duty in the Hawaiian Department, to be directed to report to the president of the board to be convened by the commanding general, Hawaiian Department, for examination for promotion.

Col. ALBERT E. TRUBY, now on duty in the Panama Canal Department, to report in person to the president of the board to be convened by the commanding general, Panama Canal Department, for examination for promotion.

To report to the president of the board to be convened by the commanding general, American Expeditionary Force, France, for examination for promotion, Col. JAMES R. CHURCH; Lieut.-Cols. CHARLES L. FOSTER, JAMES D. HEYSINGER and JOSEPH F. SILER; Majors THOMAS W. BURNETT, ROBERT M. CULLER, LUCIUS L. HOPWOOD, CLEMENS W. McMILLIAN, HENRY J. NICHOLS, OMAR W. PINKSTON, GUY V. RUKKO, ARTHUR N. TASKER and HARRY H. VAN KIRK.

To report to the president of the board to be convened by the commanding general, Western Department, for examination for promotion, Col. ELMER A. DEAN, Presidio, San Francisco, Calif.; Lieut.-Col. WILLIAM H. TEFFT, Fort Douglas, Utah.; and Major WILLIAM R. DAVIS, Fort Rosecrans, Calif.

To report to the president of the board to be convened by the commanding general, Central Department, for examination for promotion, Cols. PERCY M. ASHBURN, Fort Benjamin Harrison, Ind.; and HENRY S. GREENLEAF, Fort Snelling, Minn.; Lieut.-Cols. HENRY F. PIPES and GIDEON McD. VAN POOLE, Fort Benjamin Harrison, Ind.; Majors HENRY C. PILLSBURG, Fort Riley, Kan.;

WILLIAM S. SHIELDS, Chicago, Ill.; FRANK W. WEED, Camp Funston, Fort Riley, Kan.; HOWARD H. BAILY, Camp Grant, Rockford, Ill.; and WILLIAM A. WICKLINE, St. Louis, Mo.

To report to the president of the board to be convened by the commanding general, Eastern Department, for examination for promotion, Col. FRANCIS M. C. USHER, Fort Slocum, N. Y.; Lieut.-Cols. ORVILLE G. BROWN, Camp Mills, Garden City, L. I., N. Y.; JOHN R. BOSLEY, Fort Ontario, N. Y.; SAMUEL M. DeLOFFRE, Plattsburg Barracks, N. Y.; GEORGE F. JUENEMANN, Reorganization Camp, Gettysburg, Pa.; HENRY D. THOMASON, Fort Ontario, N. Y.; Majors WILLIAM C. DAVIS, Camp Dix, Wrightstown, N. J.; CHARLES L. GANDY, Allentown, Pa.; PAUL W. GIBSON, New York City; LOUIS H. HANSON, Syracuse, N. Y.; HARRY G. HUMPHREYS, Fort Hancock, N. J.; EDGAR C. JONES, Newport News, Va.; FREDERICK E. MACY, Fort Jay, N. Y.; FERDINAND SCHMITTER, Camp Lee, Petersburg, Va.; and WILLIAM W. VAUGHAN, Allentown, Pa.

To report to the president of the board to be convened by the commanding general, Southern Department, for examination for promotion, Lieut.-Cols. WILLIAM P. BANTA, Nogales, Ariz.; ROBERT L. CARSWELL, Fort Sam Houston, Tex.; and ROBERT C. LOVING, San Antonio, Tex.; Majors CLARENCE L. COLE, Fort Sam Houston, Tex.; and EIDE F. THODE, Fort Clark, Tex.

To report to the president of the board to be convened by the commanding general, Southeastern Department, for examination for promotion, Lieut.-Cols. CRAIG R. SNYDER, Camp McClellan, Anniston, Ala.; ARTHUR M. WHALEY, Camp Sevier, Greenville, S. C.; and LOUIS C. DUNCAN, Fort McPherson, Ga.; Majors CHARLES E. FREEMAN, Camp Pike, Little Rock, Ark.; CHARLES W. HAVERKAMPF, Fort Oglethorpe, Ga.; LEARTUS J. OWEN, Camp Greenleaf, Fort Oglethorpe, Ga.; and EDWARDS C. REGISTER, Hot Springs, Ark.

Major GLENN I. JONES, now on duty at Camp Devens, Ayer, Mass., Northeastern Department, to report to the president of the board to be convened by the commanding general, Northeastern Department, for examination for promotion.

Lieut.-Col. JUNIUS C. GREGORY to be relieved from duty at the Medical Officers' Training Camp, Fort Benjamin Harrison, Ind., and directed to proceed *to Fort Oglethorpe, Ga.*, for duty as instructor.

Major LEARTUS J. OWEN to be relieved from duty at the Medical Officers' Training Camp, Camp Greenleaf, Fort Oglethorpe, Ga., and directed *to proceed to Washington, D. C.*, and report in person to the Surgeon-General of the Army, for duty in his office.

Col. ALEXANDER N. STARK, now on duty at headquarters, Southeastern Department, Charleston, S. C., as department surgeon, to be directed *to proceed to Washington, D. C.*, and report in person to the Surgeon-General of the Army for consultation.

Col. HENRY C. FISHER, now at Camp McClellan, Anniston, Ala., *to proceed to Vicksburg, Miss.*, for the purpose of investigating and reporting on the suitability, for medical purposes, of the camp of Confederate Veterans at that place.

Capt. THOMAS J. LYNCH, N. G., to be relieved from duty with Field Hospital No. 137, Sanitary Train No. 110, Camp Doniphan, Fort Sill, Oklahoma, and *to report in person to the commanding officer of the base hospital, Fort Sill, Oklahoma*, for duty.

ORDERS TO OFFICERS OF THE MEDICAL RESERVE CORPS

Alabama

To Boston, Mass., for a course of instruction in orthopedic surgery from the Army Medical School, Lieut. HENRY W. GRADY, Birmingham.

To Camp Beauregard, Alexandria, La., for duty, Lieuts. JOHN M. BALL, Eufaula; CLIFFORD V. MAYHALL, Naleyville.

To Camp Jackson, Columbia, S. C., for duty from Fort O., Columbia, S. C., for duty, from Fort O., Lieuts. ROBERT GOLDWAITE, Montgomery; OTIS W. LITTLE, Salco.

To Camp Mills, Garden City, L. I., 41st Division, for duty, from Camp Greenleaf, Lieut. WILLIAM C. HATCHETT, Toney.

To Camp Sevier, Greenville, S. C., for duty, Lieut. COLUMBUS M. WOOLEY, Thorsby.

To Camp Shelby, Hattiesburg, Miss., from Camp Greenleaf, for duty, Lieut. ALBERT D. McFADDEN, Bellwood.

To Camp Wheeler, Macon, Ga., for duty, Lieut. LEWIS H. HAMNER, Camp Hill.

To Camp Wheeler, Macon, Ga., for duty, Lieutenant CRENSHAW, Hope Hill.

To Fort Benjamin Harrison, for duty in connection with orthopedic work, Lieut. WYATT S. ROBERTS, LaFayette.

To Fort Oglethorpe, Ga., for a course of instruction, Lieut. ALEXANDER W. GRAVES, Ashland.

To Fort Oglethorpe, Ga., for a course of instruction, Lieut. RAYFORD HODGES, Woodville.

To Neurological School, Chicago, Ill., for intensive training in brain surgery, from Fort O., Lieut. W. THEO. LANGLEY, Camp Hill.

To Philadelphia, Pa., University Hospital, for a course of instruction in fracture and upon completion of this course to proceed to Montgomery, Ala., for temporary duty as surgical assistant, from Fort O., Capt. WILLIAM M. JORDAN, Birmingham.

To his home and the inactive list of the Medical Reserve Corps from Camp Sheridan, Capt. CHARLES A. THIGPEN, Montgomery.

Arizona

To Camp Cody, Deming, N. M., for duty, Lieut. ROBER V. PARLETT, White Piver.

Arkansas

To Camp Beauregard, Alexandria, La., for duty, from Fort Riley, Lieut. PHILIP H. THOMAS, Jr., Clarendon.

To Camp Dodge, Des Moines, Ia., and report to the Commanding Officer for duty in the genito-urinary and dermatologic section, Lieut. VELPESA H. RAGSDALE, Fitzhugh.

To Camp Doniphan, Fort Sill, Okla., for duty from Fort Riley, Lieuts. MATT F. HOUSTON, Clarendon; for duty in the division of ophthalmology, section of surgery of the head, ARIS. W. COX, Helena.

To Camp Greenleaf, Fort O., for a course of instruction, Lieut. MARSHALL ALLEN, O'Kean.

To Camp Jackson, Columbia, S. C., for duty from Fort Oglethorpe, Lieut. DEWELL GANN, Jr., Little Rock.

To Camp Logan, Houston, Tex., for duty, from Fort Riley, Lieut. PAT MURPHY, Little Rock.

To Camp MacArthur, Waco, Tex., for duty, Capt. ANTHONY C. THIELLIERS, Varner.

To Fort Benjamin Harrison, for a special course of instruction in tuberculosis examination, Capt. PERRY C. WILLIAMS, Texarkana.

To Fort Oglethorpe, Ga., for a course of instruction, Lieut. LOREN WALLIN, Dermett.

To Fort Oglethorpe, Ga., for a course of instruction, Lieut. ERTON E. POYNER, Green Forest.

To St. Louis, School of Plastic and Oral Surgery, Washington University, for a three weeks' course of intensive training in head surgery, from Fort Oglethorpe, Lieut. JAMES W. BUTTS, Helena.

California

To Camp Cody, Deming, N. M., for duty, Lieut. LIVA C. McLAIN, Bakersfield.

To Camp Jackson, Columbia, S. C., for duty from Fort Oglethorpe, Lieut. ARTHUR M. GREENWOOD, San Diego.

To Camp Lewis, American Lake, Washington, for duty in the laboratory of the base hospital, Lieut. ROY W. HAMMACK, Los Angeles.

To Camp Mills, Garden City, L. I., 41st Division for duty, from Allentown, Pa., Lieut. FRANK E. McCULLOUGH, Lincoln.

To Camp Mills, Garden City, L. I., 41st Division, for duty, from Fort Benjamin Harrison, Ind., Lieut. SMITH S. JOHNSON, San Francisco.

To Houston, Texas, Aviation Section, Signal Corps, for duty, Capt. LOREZO F. LUCKIE, Los Angeles.

To Los Angeles, Calif., Aviation Section, Signal Corps, for duty, Capt. WILLIAM H. ROBERTS, Sonora.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Lieut. BRUNO F. SANDOW, Oakland.

To New York, N. Y., for instruction in orthopedic work, from the Army Medical School, Washington, Lieut. ORAL B. BOLIBAUGH, Reedley.

To Post Graduate Hospital, New York City, for a course of instruction in urology, from U. S. Army Transport *Sherman*, San Francisco, Lieut. THOMAS R. PETCH, Eureka.

To Report to Commanding Officer, Western Department, for duty, Lieut. JOSEPH H. GATTON, San Francisco.

To San Francisco, Calif., Aviation Section, Signal Corps, for duty, Lieut. ELBRIDGE J. BEST, San Francisco.

To San Francisco, University of California, for duty, Lieut. FREDERICK C. LEWITT, San Francisco.

Honorably discharged from the Medical Reserve Corps on account of being physically disqualified for active service, Lieut. JOHN C. PAINE, Exeter.

Canal Zone

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Captain EDWARD P. BEVERLEY, Balboa.

To New York, N. Y., for instruction in orthopedic work, from Army Medical School, Washington, D. C., Panama City.

To Washington, D. C., and report to the surgeon-general for instructions, Capt. HERBERT C. CLARK, Ancon.

Colorado

To Boston, Massachusetts General Hospital, from Medical Officers' Training Camp, Fort Riley, Kan., for a course of instruction on fractures and on completion of this duty to Camp Doniphan, Fort Sill, Okla., for temporary duty as surgical assistant, Capt. CLARENCE B. INGRAHAM, Jr., Denver.

To Camp Greenleaf, Fort Oglethorpe, for a course of instruction, Lieut. DANIEL B. RILEY, Ignacio.

To Camp Logan, Houston, Tex., for duty from Fort Riley, Lieuts. WINFIELD S. CLELAND, Delta; BERT MENSER, Denver.

To Camp Travis, Fort Sam Houston, Texas, for duty, from Fort Riley, Kan., Lieut. ALECK F. HUTCHINSON, Durango.

To Fort Benjamin Harrison, Hospital Train 20, for duty, from Medical Officers' Training Camp, Fort Benjamin Harrison, Lieut. WILLIAM C. LUCAS, Weldona.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Lieuts. WILLIAM W. JONES, Denver; Lieut. ROBERT LEVY, Denver.

To New York City, Bellevue Hospital, for a course of instruction in fractures and on completion of this duty to Camp Custer, Battle Creek, Mich., 85th Division, for temporary duty, from Camp Custer, Lieut. ROBERT G. PACKARD, Denver.

To St. Louis, School of Plastic and Oral Surgery, Washington University, for a three weeks' course of intensive training in head surgery, from Fort Riley, Lieut. FRED H. CARPENTER, Denver.

Connecticut

To Boston, Mass., for a course of instruction in orthopedic surgery from the Army Medical School, Lieut. FREDERICK K. HERPEL, Hartford.

To Camp Greenleaf, Fort Oglethorpe, for a course of instruction, Capt. ROBERT E. PERDUE, Norwich.

To Camp McClellan, Anniston, Ala., for duty as assistant to the chief of the Medical Service, from Fort Benjamin Harrison, Lieut. JOHN C. ROWLEY, Hartford.

To Fort Oglethorpe, Ga., for a course of instruction, Lieuts. LEVERNE HOLMES, Manchester; RUSSELL B. STREET, Suffield.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Capt. MICHAEL J. SHEAHAN, Derby.

To New Haven, Conn., Aviation Section, Signal Corps, for duty, Capt. HAROLD S. ARNOLD, New Haven.

To Rockford, Ill., for duty as a member of a board of medical officers for the special examination of the command for tuberculosis, Lieut. CHARLES H. TURKINGTON, Pitchfield.

Delaware

To Camp Meade, Annapolis Junction, Md., for duty, Lieut. ROBERT R. ROTH, New Castle.

To St. Louis, School of Plastic and Oral Surgery, Washington University, for a three weeks' course of intensive training in head surgery, from Fort Riley, Lieut. JOHN B. ELLIOT, Laurel.

District of Columbia

To Boston, Mass., for a course of instruction in orthopedic surgery, from the Army Medical School, Lieuts. JOHN R. DEVELLING, Washington; EDWARD B. MACON, Washington.

To Camp Wheeler, Macon Ga., for duty, from Fort Oglethorpe, Capt. FRANCIS P. MORGAN, Washington.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Lieut. CHARLES W. HYDE, Washington.

To Neurological School, Chicago, Ill., for a course of instruction in brain surgery, Lieut. GRAFTON D. TOWNSHEND, Washington.

To New York, N. Y., for instruction in orthopedic work, Capt. EARL OSTERHAUS, Washington.

To the Office of the Surgeon-General, for duty in charge of the subdivision of otolaryngology, section of surgery of the head, Major CHARLES W. RICHARDSON, Washington.

Honorably discharged from the Medical Reserve Corps, Capt. VICTOR B. RENCH, Washington.

Florida

To Boston, Mass., for a course of instruction in orthopedic surgery, from the Army Medical School, Lieut. LAURENT L. LAROCHE, Cocoa.

To Camp Jackson, Columbia, S. C., for duty from Fort Oglethorpe, Lieut. LOUIS B. BOUCHELLE, Sanford.

To Camp Lee, Petersburg, Va., for duty, to be relieved from his present duties at that camp, Lieut. BENNETT A. BURKE, Titusville.

To Camp Mills, Garden City, L. I., 41st Division, for duty, from Allentown, Lieuts. PAUL L. GOSS, Mulberry; WILLIE J. VINSON, Tarpon Springs.

To Fort Oglethorpe, for a course of instruction, Lieut. THOMA E. PARRISH, Dania.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Lieuts. JAMES L. PENNINGTON, Fountain; CLAUDE V. GAUTIER, Passagrille.

To his home and the inactive list of the Medical Reserve Corps on account of being physically disqualified for active service, from Allentown, Pa., Lieut. EDGAR S. STRICKLAND, Miccosukee.

Georgia

To Atlanta, Ga., Base Hospital No. 43, and on completion to the inactive list of the Medical Reserve Corps, Lieut. EDGAR H. GREENE, Atlanta.

To Camp Gordon, Atlanta, Ga., for duty in the orthopedic service, Lieut. OSCAR L. MILLER, Atlanta.

To Camp Greenleaf, Fort Oglethorpe, for a special course of instruction in tuberculosis examinations, Lieuts. ENOCH C. SEALE, Atlanta, and LUCIUS F. WRIGHT, Atlanta.

To Camp Jackson, Columbia, S. C., for duty, from Fort Oglethorpe, Lieut. JOSEPH E. MERCER, Baxley.

To Camp Lee, Petersburg, Va., for duty in connection with venereal diseases, Lieut. JAMES J. BEATON, Waycross.

To Camp Mills, Garden City, L. I., 41st Division, for duty, from Allentown, Pa., Lieut. MARK E. PERKINS, Miller.

To Camp Pike, Little Rock, Ark., 87th Division, for duty as a member of a board of medical officers for the special examination of the command for tuberculosis, from Camp Greenleaf, Fort Oglethorpe, Ga., Lieut. JESSE M. ANDERSON, Columbus.

To Camp Wadsworth, Spartansburg, S. C., for temporary duty, from Fort Oglethorpe, Lieut. GEORGE L. FUQUAY, Savannah.

To Camp Wheeler, Macon, for duty, Lieuts. BOWMAN J. WISE, Plains; JOHN H. TERRELL, JR., Canon; EGBERT M. TOWNSEND, Tilton.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Lieuts. JOHN H. HALL, Atlanta; THOMAS E. BLACKBURN, Swainsboro.

To Fort Oglethorpe, for a course of instruction, Lieut. ROBERT F. McLEOD, Pine View.

To St. Louis, Mo., Washington University, for a course of instruction, from Base Hospital No. 43, Atlanta, Ga., Lieut. JAMES W. ROBERTS, JR., Atlanta.

To Washington, D. C., Aviation Section, Signal Corps, for duty, Lieut. SAMUEL A. ALEXANDER, Savannah.

Idaho

To Camp Lewis, American Lake, Washington, for temporary duty, Lieut. FREDERICK W. DIDIER, Harrison.

To Camp Travis, Fort Sam Houston, for duty, from Fort Riley, Kan., Lieuts. SAMUEL T. FANCETT, Bonners Ferry; GEORGE G. FITZ, Richfield.

To Fort Riley, Kan., for duty, Lieut. DONALD S. NUMBERS, Parma.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Lieut. CLYDE T. SMITH, Pocatello.

Illinois

To Boston, Mass., for a course of instruction in orthopedic surgery, from the Army Medical School, Lieut. HARVEY E. WEBB, Chicago.

To Camp American University, Washington, D. C., for duty with the 30th Engineers, from the Army Medical School, Lieut. ALFRED E. JONES, Chicago.

To Camp Beauregard, Alexandria, La., for duty, from Fort Riley, Capt. EMMETT A. GARRETT, Peoria; Lieuts. WILLIAM THOMSON, Belknap; NEIL R. FUNK, Chicago; EDWARD H. RATEGAN, Chicago; EDWIN B. GODFREY, Springfield; HAMES L. LEWIS, Joliet.

To Camp Cody, Deming, N. M., for duty in connection with the division of otolaryngology, section of surgery of the head, Lieut. DOUGLAS A. LEHMAN, Harrisburg.

To Camp Custer, Battle Creek, Mich., for duty, Lieuts. SHERMAN DAVIS, Chicago; GRANT J. GRAY, Chicago.

To Camp Funston, Fort Riley, for duty, Lieut. RAYMOND EVANS, Eaton.

To Camp Doniphan, Fort Sill, Okla., for duty from Fort Riley, Kan., Capt. ROBERT G. McCARTHY, Chicago.

To Camp Grant, Rockford, Ill., for duty, Capt. EMIL WINDMUELLER, Woodstock; Lieut. CARL V. A. WEICHELT, Barrington; HARRISON C. CHAMPLIN, Chicago; LEO G. HOGAN, Chicago.

To Camp Greenleaf, Fort Oglethorpe, Ga., for a course of instruction, Lieuts. HARRY M. KEDGE, Chicago; ELMER MAURICE SMITH, Georgetown; ARVID E. KOHLER, Moline; GEORGE L. RATHBUN, New Windsor; LEON W. KELSON, Paxton; HENRY STERN, South Chicago.

To Camp Logan, 33rd Division, Houston, Tex., for duty, Major DANIEL W. ROGERS, Chicago; Lieuts. WILLIAM R. MANGUM, Bridgeport; WALTER D. HALL, Chicago; OLIVER C. HARGREAVES, Chicago; ORVIL ONEAL, Shattuc; JOHN B. HAZEL, JR., Staunton; HARLEY A. ZINSSER, Washington.

To Camp McClellan, Anniston, Ala., for duty as assistant to the chief of the Medical Service, Lieut. FRANK EVANS, Springfield.

To Camp Mills, Garden City, L. I., 41st Division, for duty from Allentown, Lieuts. EARL K. LANGFORD, Chicago; JOSEPH C. KIMBALL, Joliet.

To Camp Pike, Little Rock, Ark., for duty as chief of the surgical service, Major HUGH McKENNA, Chicago.

To Camp Taylor, Louisville, Ky., from Fort Benjamin Harrison, Lieut. WILLIAM H. CREDE, Chicago.

To Camp Travis, Fort Sam Houston, Tex., for duty, from Fort Riley, Kan., Lieuts. WALTER A. DEW, Belleville; GLENN S. EVANS, Forrest; MORRIS FINKELBERY, Springvalley.

To Camp Wadsworth, Spartanburg, S. C., for duty, Lieut. ORVAN A. PHIPPS, Toledo.

To Chicago, Neurological School, for a course of instruction in brain surgery, Major SAMUEL C. PLUMMER, Chicago; Lieut. FRED L. GLASCOCK, Chicago.

To Fort Benjamin Harrison, Ind., for a special course of instruction in tuberculosis examination, Capt. CHARLES H. POWELL, Old Ripley; Lieuts. EDWIN S. GILLESPIE, Wenona; TIMOTHY C. WEBER, West Salem.

To Fort Oglethorpe, for a course of instruction, Capt. JOHN B. HOWE, Chicago; Lieuts. FRANK J. JIRKA, Chicago; ALFRED C. WENDT, Chicago; LUCIEN N. LINDSEY, Forsyth; RALPH A. CLARIDGE, Kaneville; SAMUEL L. OREN, Lewiston.

To Fort Sam Houston, Tex., Camp Travis, for duty from Fort Riley, Kan., Lieut. ANDREW J. AIRD, Carterville.

To Hoboken, N. J., for duty, from Fort Benjamin Harrison, Lieut. GEORGE N. PRATT, Chicago.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Lieuts. GROVER C. OTRICH, Belleville; RALPH H. KUHNS, Chicago; CHARLES P. SMALL, Evanston.

To New York, for instruction in orthopedic work, from Army Medical School, Lieut. MARCUS H. HOBART, Chicago.

To Pittsburgh, Pa., from Fort Benjamin Harrison for a course of instruction on fractures and on completion of this duty to Camp Doniphan, Fort Sill, Okla., for temporary duty as surgical assistant, Capt. CHARLES H. PARKES, Chicago; for a course of instruction on fractures and on completion of this duty to Fort Riley, Kan., and report for temporary duty as surgical assistant, from Fort Benjamin Harrison, Capt. WILLIAM G. LEE, Chicago.

To Plattesburg Barracks, N. Y., for duty in connection with orthopedic work, from Camp Sheridan, Lieut. JAMES H. VETTER, Chicago.

To Rockefeller Institute, for a course of instruction and on completion of this duty to Fort Logan, Colo., for temporary duty, from Fort Benjamin Harrison, Capt. VERNON C. DAVID, Chicago.

To Rockford, Ill., for duty as a member of a board of medical officers for the special examination of the command for tuberculosis, Lieut. JOSEPH URKOV, Chicago.

To St. Louis, School of Plastic and Oral Surgery, Evans Dental Institute, for a three weeks' course of intensive training in head surgery, from Fort Oglethorpe, Lieut. WILLIAM H. MALEY, Galesburg.

To Walter Reed General Hospital, Takoma Park, D. C., for duty, from State Psychopathic Hospital, Ann Arbor, Mich., Lieut. EDWARD J. STRICKLER, Chicago.

To his home and the inactive list of the Medical Reserve Corps of the Army on account of being physically disqualified for active service, Lieut. JAMES A. BOYER, Carmi.

Indiana

To Boston, Mass., for a course of instruction in orthopedic surgery, from the Army Medical School, Lieut. HASKETT L. CONNER, Indianapolis.

To Camp Beauregard, Alexandria, La., for duty, from Fort Riley, Lieut. EDWARD L. DEWEY, Whiting.

To Camp Greenleaf, Fort Oglethorpe, for a course of instruction, Capt. LEWIS F. MOBLEY, Summitville.

To Camp MacArthur, Waco, Tex., for duty, from Fort Benjamin Harrison, Lieut. SIDNEY G. CORTNER, Otisco.

To Camp Meade, Annapolis Junction, Md., for duty, from Phipps Clinic, Baltimore, Md., Lieut. WILLIS W. CAREY, Fort Wayne.

To Camp Mills, Garden City, L. I., 41st Division, for duty, from Allentown, Lieuts. LLOYD A. ELLIOT, Elkhart; WALTER M. STOUT, Indianapolis; JAMES G. KIDD, Roann; for duty from Fort Benjamin Harrison, Lieuts. HENLY H. HUBBARD, Boswell; HOMER E. LINE, Chili.

To Camp Sevier, Greenville, S. C., for duty, Capt. WILLIAM E. GEORGE, Crawfordsville.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Benjamin Harrison, Lieuts. CHARLES E. STON, Shoals; MALCOLM B. FYFE, Wheatfield.

To Camp Travis, Fort Sam Houston, Tex., for duty from Fort Riley, Kan., Lieut. DANIEL D. JONES, Berne.

To Fort Benjamin Harrison, for a special course of instruction in tuberculosis examination, Lieut. JULIUS J. GROSVENOR, Richmond.

To Fort Oglethorpe, for a course of instruction, Lieuts. NAPOLEON LA BONTA, Indianapolis; CLAUDE B. NEIDHAMER, Indianapolis; FREEMAN R. BANNON, Kokomo; GEORGE H. DAY, New Albany.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Lieuts. BERNARD J. LARKIN, Indianapolis; EARL D. JEWETT, St. Paul.

To Rockefeller Institute, New York City, for a course of instruction and on completion of this course to proceed to Camp Taylor, Louisville, Ky., for temporary duty, from Fort Benjamin Harrison, Lieut. FREDERICK A. HENDERSON, Kokomo.

To Rockford, Ill., for duty from Fort Benjamin Harrison, Lieut. EDGAR R. HIATT, Portland.

To St. Louis, School of Plastic and Oral Surgery, Evans Dental Institute, for a three weeks' course of intensive training in head surgery, Capt. ALFRED P. ROOPE, Columbus.

To St. Louis, School of Plastic and Oral Surgery, Washington University, for a three weeks' course of intensive training in head surgery, from Fort Benjamin Harrison, Capt. GEORGE B. BREEDLOVE, Martinsville; from Fort Riley, Lieut. FRED G. EBERHARD, South Whitley.

To his home and honorably discharged from the Medical Reserve Corps on account of being physically disqualified for active service, from Fort Benjamin Harrison, Capt. JOSEPH K. WORTHINGTON, Indianapolis.

Iowa

To Boston, Massachusetts General Hospital, from Medical Officers' Training Camp, Fort Riley, for a course of instruction on fractures and on completion of this duty to Camp Lewis, American Lake, Washington, for temporary duty as surgical assistant, Capt. CARL J. SNITKAY, Belle Plaine.

To Camp Beauregard, Alexandria, La., for duty, from Fort Riley, Lieuts. MERLE BONE, Albia; ROY C. GUTCH, Chariton; EDWARD L. HALLINAN, Clinton; WALTER G. FINLEY, Mondamin.

To Camp Greenleaf, Fort Oglethorpe, for a course of instruction, Capts. CHALMERS A. HILL, Council Bluffs; JOHN W. SHUMAN, Sioux City; ROBERT C. CRUMPTON, Webster City.

To Camp Jackson, Columbia, S. C., for duty from Fort Oglethorpe, Lieut. JOHN F. MEANY, Rockwell.

To Camp Logan, Houston, Tex., for duty from Fort Riley, Lieut. RALPH J. SELMAN, Blakesburg.

To Camp Logan, Houston, Tex., for duty from Fort Riley, Lieuts. BENJAMIN C. HAMILTON, Jr., Jefferson; PAUL NICOLAI, Livermore; JOHN W. STIERS, Muscatine; CLYDE R. VAN VOORHIS, Prairie City; EDMUND W. WILSON, Rolfe; HERBERT PEASE, Slater.

To Camp Travis, Fort Sam Houston, Tex., for duty, from Fort Riley, Kan., Lieut. ROY K. KEECH, Cedar Rapids.

To Fort Oglethorpe, for a course of instruction, Lieuts. GEORGE W. FRANK, Buffalo; ERWIN J. GOTTSCH, LeMard; ROBERT G. HINRICHS, Palmer.

Kansas

To Camp Beauregard, Alexandria, La., for duty, from Fort Riley, Lieuts. CHARLES J. BLISS, Mayetta; UEN S. HARRISON, Topeka.

To Camp Doniphan, Fort Sill, Okla., for duty, from Fort Riley, Lieuts. HERBERT W. JURY, Clafin; CHARLES A. DIETER, Hope; HARRY H. HUDSON, Newton; MEADE A. BUTTON, Topeka.

To Camp Greenleaf, Fort Oglethorpe, Ga., for a course of instruction, Capt. FRANKLIN T. JOHNSON, Jr., Elmdale; Lieut. CASPER J. MIDDLEKAUFF, Hays.

To Camp Logan, Houston, Texas, for duty, from Fort Riley, Lieut. JAMES G. STEWART, Topeka.

To Camp MacArthur, Waco, Tex., for duty, Lieuts. ALEXANDER B. SCOTT, Bucklin; THOMAS E. CRUMP, Parsons.

To Camp Travis, Fort Sam Houston, Tex., for duty, from Fort Riley, Lieut. RALPH C. HENDERSON, Erie.

To Fort Riley, for duty, Lieuts. WILLIAM H. HEUSCHELS, Corning; MARK BEACH, Fort Riley; MALCOLM NEWLON, Lincoln.

To Kelly Field, Signal Corps, Aviation School, San Antonio, Tex., from Fort Benjamin Harrison, for duty, Lieut. PAUL C. CARSON, Ashland.

To Philadelphia, to the School of Plastic and Oral Surgery, Evans Dental Institute, for a three weeks' course of intensive training, Lieut. IVAN R. BURKET, Ashland.

To St. Louis, School of Plastic and Oral Surgery, Washington University, for a three weeks' course of intensive training in head surgery, from Fort Riley, Lieut. JESSE D. COOK, Topeka.

Kentucky

To Army Medical School, Washington, D. C., for the required course of instruction, Lieut. FLOYD V. KILGORE, Louisville.

To Camp Beauregard, Alexandria, La., for duty, from Fort Riley, Kan., Lieuts. ARTHUR C. GOODMAN, Louisville; WILLIAM A. KRIEGER, New Port; MARVIN C. PENTZ, Nicolasville.

To Camp Greenleaf, Fort Oglethorpe, Ga., for a course of instruction, Lieut. CLAY CRAWFORD, Fort Thomas.

To Camp Logan, Houston, Tex., for duty, from Fort Riley, Kan., Lieuts. LOUIS M. TOMLINSON, Harveyville; GROVER A. BECKETT, Sunrise.

To Camp Meade, Annapolis Junction, Md., for duty, from Phipps Clinic, Baltimore, Capt. WALTER A. LACKEY, Paducah.

To Camp Mills, Garden City, L. I., 41st Div., for duty, from Fort Benjamin Harrison, Lieut. ALBERT E. HOLMES, Louisville.

To Camp Sevier, Greenville, S. C., for duty, Lieut. WILLIAM T. BRUNER, Louisville.

To Camp Travis, Fort Sam Houston, Tex., for duty, from Fort Riley, Kan., Lieut. ROBERT B. MORRIS, Bowling Green.

To Camp Wadsworth, Spartanburg, S. C., for duty, Lieut. HOMER L. NICKELL, Salt Lick.

To Camp Wheeler, Macon, Ga., for duty, from Fort Oglethorpe, Lieut. JOHN P. WHEELER, Carrollton.

To Fort Benjamin Harrison, Hospital Train 20, for duty, from Medical Officers' Training Camp, Lieut. WILLIAM B. DOHERTY, Louisville; for a course in tuberculosis examination, Lieut. CHARLES F. VOIGHT, Valley Station.

To Fort Oglethorpe, for a course of instruction, Lieut. JOHN D. GRANT, Maysville.

To Fort Sheridan, Ill., for duty with Hospital Train A, from Fort Benjamin Harrison, Lieut. WILLIAM B. DOHERTY, Louisville.

To Harvard Medical School, Boston, Mass., for a course of instruction in orthopedic surgery, and on completion of this course to proceed to his home and return to the inactive list of the Medical Reserve Corps, Lieut. OTTO P. HODGE, Grants Lick.

To New York City, Bellevue Hospital, for a course of instruction in fractures, and on completion of this duty to Camp Taylor, Louisville, Ky., 84th Div., for temporary duty, from Camp Taylor, Lieut. JOHN B. RICHARDSON, Louisville.

To Rockford, Ill., for duty, from Fort Benjamin Harrison, Lieuts. WILLIAM J. YOUNG, Louisville; for duty as a member of a board of medical officers for the special examination of the command for tuberculosis, ALFRED H. KELLY, Shively.

Relieved from duty at the Medical Officers Training Camp, Fort Des Moines, Iowa, and returned to the inactive list of the Medical Reserve Corps, Lieut. VAN J. DAVIS, Paducah.

To his home on completion of the course at the school of plastic and oral surgery, Washington University, St. Louis, Mo., and returned to the inactive list of the Medical Reserve Corps, Capt. ROBERT M. COLEMAN, Lexington.

Louisiana

To Boston, Mass., for a course of instruction in orthopedic surgery, from the Army Medical School, Lieut. KARL F. KESMODEL, New Orleans.

To Camp Beauregard, Alexandria, La., for duty, Lieut. WALTER H. REILLEY, New Orleans.

To Camp Greenleaf, Fort Oglethorpe, for a course of instruction, Lieuts. ALFRED L. LEWIS, Bogalusa; SIDNEY F. BRAND, New Orleans.

To Camp Mills, Garden City, L. I., 41st Div., for duty, from Camp Greenleaf, Fort Oglethorpe, Lieut. JOHN G. LILLY, St. Joseph.

To Camp Travis, Fort Sam Houston, Tex., for duty, from Fort Riley, Kan., Lieut. PRENTISS E. PARKER, Bourg.

To Camp Wheeler, Macon, Ga., for duty, from Fort Oglethorpe, Lieut. WILLIAM T. McNEESE, Augie.

To Chicago, Ill., Neurological School, Presbyterian Hospital, for intensive training in brain surgery, and on completion of this course to return to his present station, from Fort Oglethorpe, Capt. THOMA P. LLOYD, Shreveport.

To Cornell Medical College, N. Y., for a course of instruction in military roentgenology, from Medical Officers' Training Camp, Camp Greenleaf, Fort Oglethorpe, Lieut. ELEAZOR R. BOWIE, New Orleans.

To New York City, Bellevue Hospital, for a course of instruction in fractures and on completion of this course to Fort Oglethorpe for temporary duty in the Provisional Base Hospital, from Fort Oglethorpe, Lieut. THOMA RAGAN, Shreveport.

To Reorganization Camp, Gettysburg, Pa., for duty, from Army Medical School, Lieut. FARRAR B. PARKER, New Orleans.

Maine

To Boston, Mass., for a course of instruction in orthopedic surgery, from the Army Medical School, Capt. WILLIAM C. WHITMORE, Portland.

To Camp Logan, Houston, Tex., for duty, from Fort Riley, Lieut. MILTON O. HOUGHTON, Paris.

To Camp Wadsworth, Spartanburg, S. C., for duty, Lieut. JAMES W. LOUGHLIN, Newcastle.

Maryland

To Boston, Mass., for a course of instruction in orthopedic surgery, from the Army Medical School, Lieut. ARTHUR M. BACON, Baltimore.

To Camp Jackson, Columbia, S. C., for duty, from Fort Oglethorpe, Lieuts. JAMES S. AKEHURST, Baltimore; WILLIAM L. MILLEA, Baltimore.

To Camp Mills, Garden City, L. I., 41st Div., for duty, from Camp Greenleaf, Fort Oglethorpe, Lieut. JOHN R. DOWNES, Preston.

To Camp Wadsworth, Spartanburg, S. C., for duty, Lieuts. HOWARD H. JOHNSTON; for duty as assistant to the chief of the medical service and as tuberculosis specialist, Lieut. ARTHUR F. PETERSON, Baltimore.

To Camp Wheeler, Macon, Ga., for duty, from Fort Oglethorpe, Lieut. ALEXANDER McC. STEVENS, Easton.

To Chicago, Ill., Neurological School, for intensive training in brain surgery, Lieut. WILLIAM R. GERAGHTY, Baltimore.

To Hoboken, N. J., for duty, Lieut. JAMES A. ETHERIDGE, Baltimore.

To Pittsburgh, for a course of instruction on fractures and on completion of this duty to Camp Shelby, Hattiesburg, Miss., for temporary duty as surgical assistant, Lieut. HARRY GROSS, Baltimore.

To Plattsburg Barracks, N. Y., in connection with ophthalmology and otolaryngology, section of surgery of the head, Capt. ALEXANDER D. McCONACHIE, Baltimore.

To Saranac Lake, N. Y., for ten days' instruction in laboratory methods in the diagnosis of tuberculosis and on completion of this instruction to be returned to his proper station, from Camp Devens, Ayer, Mass., Lieut. GEORGE B. WISLOCKI, Baltimore.

To his home on completion of the course at the school of plastic and oral surgery, Washington University, St. Louis, Mo., and returned to the inactive list of the Medical Reserve Corps, Lieut. FRED RANKIN, Baltimore.

Massachusetts

To Boston, as instructor in orthopedic surgery, Capt. MARK H. ROGERS, Boston; for a course of instruction in military roentgenology, Capt. JOHN H. LINDSAY, Fall River.

To City Hospital, Boston, for a course of instruction in fractures, and on completion of this course to proceed to Camp Devens, for duty as surgical assistant, from Camp Devens, Lieuts. ROBERT L. JONES, Lowell; for a course of instruction on fractures, and on completion of this course to Plattsburg Barracks, N. Y., for temporary duty as surgical assistant, Lieut. WILLIAM F. RYAN, Lowell.

To Boston, General Hospital, for a course of instruction on fractures, and on completion of this duty to Fort McPherson, Ga., for temporary duty, from Fort Benjamin Harrison, Lieut. DAVID D. SCANNELL, Boston.

To Camp Custer, Battle Creek, Mich., for duty, from Fort Benjamin Harrison, Lieut. OSCAR L. SPENCER, Lynn.

To Camp Devens, Ayer, Mass., for duty, from Fort Benjamin Harrison, Lieut. JOHN F. STREETER, Springfield.

To Camp Greene, Charlotte, N. C., for duty as assistant to the chief of the Medical Service, Lieut. ALFRED E. JOHNSON, Greenfield.

To Camp MacArthur, Waco, Tex., for duty, from Fort Benjamin Harrison, Lieuts. RIDGELY F. HANSCOM, Newton; JOHN A. SULLIVAN, Pittsfield.

To Camp Mills, Garden City, L. I., 41st Div., for duty, from Fort Benjamin Harrison, Lieuts. WERNER HILTPOLD, Easthampton; WILLARD W. LEMAIRE, Lynn.

To Fort Oglethorpe, for a course of instruction, Capt. STARR A. MOULTON, Winthrop; Lieut. JOSEPH SEGAL, Boston.

To Fort Ontario, New York, for duty as commanding officer of Field Hospital No. 28, from Fort Benjamin Harrison, Major GEORGE OSGOOD, Chasset; for duty as commanding officer of Field Hospital No. 30, Capt. DANNA W. DRURY, Boston; for duty with Field Hospital No. 30, from Fort Ethan Allen, Vt., Capts. HARRY E. SEARS, Beverly; HENRY M. FIELD, Norwood; Lieuts. ROLF C. NORRIS, Methuen; from Camp Devens, WHITMAN G. STICKNEY, Beverly.

To Kelly Field, Signal Corps, Aviation School, San Antonio, Tex., from Fort Benjamin Harrison, for duty, Lieut. SAMUEL B. KAUFMAN, Fall River.

To New York City, for instruction in orthopedic surgery, Lieut. ALFRED A. FENTON, Norwood.

To Philadelphia, School of Plastic and Oral Surgery, for a three weeks' course of intensive training, Capt. RALPH C. WIGGIN, Cambridge.

To Philadelphia, University Hospital, from Medical Officers' Training Camp, Camp Greenleaf, Fort Oglethorpe, Ga., for a course of instruction on fractures, and on completion of this course to Camp Wadsworth, Spartanburg, S. C., for temporary duty as surgical assistant, Lieut. DONALD MUNRO, Milton.

To St. Louis, School of Plastic and Oral Surgery, Washington University, for a three weeks' course of intensive training in head surgery, from Fort Benjamin Harrison, Lieut. CHARLES F. CANEDY, Greenfield.

To Camp MacArthur, Waco, Tex., 32d Div., National Guard, for temporary duty as cardiovascular examiner, Capt. GEORGE D. HENDERSON, Holyoke.

To Walter Reed General Hospital, Takoma Park, D. C., for a course in tuberculosis examination, Capt. FRANCIS R. BURKE, Quincy.

To Washington, D. C., and report to the commanding officer for the required course of instruction, Lieut. WALTER L. PERRY, Worcester.

Mexico

To New York City, for instruction in orthopedic work, from Army Medical School, Lieut. OTTO R. BROWN, Tampico Tamps.

Michigan

To Boston, for a course of instruction in orthopedic surgery, from the Army Medical School, Capt. CURTIS D. PILLSBURY, Ann Arbor.

To Camp Beauregard, Alexandria, La., for duty, from Fort Riley, Lieuts. AURA A. HOYT, Battle Creek; DAVID LITTLEJOHN, Bridgman.

To Camp Custer, Battle Creek, Mich., for duty, Lieuts. JOHN E. HESLOP and SLIL A. MARTINDALE, Hillsdale.

To Camp Greenleaf, Fort Oglethorpe, for a course of instruction, Lieut. WORTH W. WALTON, Mancelona.

To Camp MacArthur, Waco, Tex., for duty, from Fort Benjamin Harrison, Capt. CLARENCE M. WILLIAMS, Alpena; Lieut. WILLIAM J. RYNEARSON, Parshallville.

To Camp Mills, Garden City, L. I., 41st Div., for duty, from Fort Benjamin Harrison, Lieut. GEORGE F. LISTER, Willman.

To Camp Shelby, Hattiesburg, Miss., for temporary duty, from Medical Officers' Training Camp, Fort Benjamin Harrison, Lieut. BURT F. GREEN, Hillsdale.

To Camp Travis, Fort Sam Houston, Tex., for duty, from Fort Riley, Kan., Lieuts. HARRY S. BERMAN, Detroit; JOHN W. EVERS, Flint; VAN D. BARNES, Morenci; ROBERT McK. GREENSHIELDS, Romeo; GEORGE L. ALGER, Saginaw.

To Camp Wheeler, Macon, Ga., for duty in the orthopedic service, Lieut. LEE C. DONNELLY, Detroit.

To Fort Benjamin Harrison, Ind., for a course of instruction in tuberculosis examinations, Lieut. RAY L. FELLERS, Detroit.

To Fort Oglethorpe, for a course of instruction, Lieuts. MARTIN W. CAVENEY, Detroit; CHARLES J. FOLEY, Detroit; WILLIAM Y. KENNEDY, Detroit; WILLIAM WESTRATE, Holland.

To Fort Riley, Kan., for duty as plastic and oral surgeon, in the section of surgery of the head, from School of Plastic and Oral Surgery, Washington University, St. Louis, Major PETER D. MacNAUGHTON, Calumet.

To Kelly Field, Signal Corps, Aviation School, San Antonio, Tex., from Fort Benjamin Harrison, for duty, Lieut. ROBERT D. SCOTT, Rudyard.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Lieut. PHILLIP I. FROUDE, Detroit.

To St. Louis, School of Plastic and Oral Surgery, Washington University, for a three weeks' course of intensive training in head surgery, Capt. WILLIAM C. McCUTCHEON, Cassopolis.

To St. Louis, School of Plastic and Oral Surgery, Evans Dental Institute, for a three weeks' course of intensive training in head surgery, from Fort Oglethorpe, Capt. RALPH E. BALCH, Kalamazoo; Lieut. BERNHARD FRIEDLAENDER, Saginaw.

Honorably discharged from the Medical Reserve Corps, Lieut. MARSHALL B. McCAUELAND, Imlay City.

Minnesota

To Camp Beauregard, Alexandria, La., for duty, from Fort Riley, Lieuts. JOHN C. BROWN, St. Paul; JOHN J. PLATT, St. Paul.

To Camp Custer, Battle Creek, Mich., for duty, Capt. CHARLES R. CHRISTENSON, Minneapolis.

To Camp Doniphan, Fort Sill, Okla., for duty, from Fort Riley, Lieut. ANTON G. SANDERSON, Minneota.

To Camp Greenleaf, Fort Oglethorpe, for a course of instruction, Lieut. REINHART G. OLSON, Nicollet.

To Camp Logan, Houston, Tex., for duty, from Fort Riley, Lieut. VIRGIL H. MOATS, Minneapolis.

To Camp Robinson, Sparta, Wis., for duty, Lieut. CHARLES K. HOLMES, St. Paul.

To Camp Travis, Fort Sam Houston, Tex., for duty, from Fort Riley, Kan., Lieuts. EDWARD T. FITZGERALD, Morris; DAVID S. FLEISCHHAUER, Wabasha.

To Camp Wadsworth, Spartanburg, S. C., for duty, Lieut. AUGUST F. HUNTE, Truman.

To Chicago, Neurological School, Presbyterian Hospital, for intensive training in brain surgery and on completion of this course to return to his proper station, from Minneapolis, Major JAMES F. CORBETT, Minneapolis.

To Chicago, Neurological School, Presbyterian Hospital, for intensive training in brain surgery, from Fort Riley, Capt. EARL H. MARCUM, Bennidji.

To Fort Benjamin Harrison, Ind., for a special course of instruction in tuberculosis examinations, Lieut. THOMAS G. CLEMENT, Vernon Center.

To Fort Oglethorpe, for a course of instruction, Capt. WILLIAM E. WRAY, Campell; Lieut. ELMER A. CARBERRY, Minneapolis.

To Fort Worth, Tex., Aviation Section, Signal Corps, for duty Capt. JOHN C. STALEY, St. Paul.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Lieut ARTHUR J. LEWIS, Hemming.

To Rockefeller Institute, New York City, for a course of instruction and on completion of this course to return to his proper station, from Fort Sheridan, Ill., Lieut. GEORGE D. RICE, St. Cloud.

To St. Louis, School of Plastic and Oral Surgery, Washington University, for a three weeks' course of intensive training in head surgery, from Fort Riley, Lieut. FLOYD W. BURNS, St. Paul.

Mississippi

To Boston, for a course of instruction in orthopedic surgery, from the Army Medical School, Lieut. EGBERT H. WESSON, New Albany.

To Camp Beauregard, Alexandria, La., for duty, from Fort Riley, Capt. JOHN S. McINTOSH, Mt. Olive; Lieuts. CLAUD C. GREENE, Baltzer; CHARLES A. MARTIN, Chanky; DANIEL S. JOHNSON, Houston; PHIL R. POLK, Oak Vale.

To Camp Jackson, Columbia, S. C., for duty, from Fort Oglethorpe, Capt. BERNARD H. BOOTH, Drew; Lieuts. JAY R. LANNING, Corinth; REGINALD S. ANNIS, Stillmore.

To Camp McClellan, Anniston, Ala., for duty as assistant to the chief of the medical service, Lieut. HILTON R. CARR, Water Valley.

To Camp Mills, Garden City, L. I., 41st Div., for duty, from Camp Greenleaf, Fort Oglethorpe, Lieut. CHARLES E. LEHMBERG, Artesia.

To Camp Travis, Fort Sam Houston, Tex., for duty, from Fort Riley, Kan., Lieut. WILLIAM A. D. JAMES, Midnight.

To Camp Wheeler, Macon, Ga., for duty, from Fort Oglethorpe, Lieut. ARMEN F. WICKS, Okolona.

To Fort McPherson, Atlanta, Ga., for duty in the genito-urinary and dermatologic section of the base hospital, from Fort Oglethorpe, Lieut. WALLACE L. BRITT, Jackson.

To Fort Oglethorpe, for a course of instruction, Lieut. ERIC A. McVEY, Lambert.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Lieut. SOLOMON R. BOYKIN, Puckett.

To Philadelphia, University Hospital, for a course of instruction on fractures and on completion of this course to proceed to Camp MacArthur, Waco, Tex., for temporary duty as surgical assistant, Capt. WALTER R. McKINLEY, Columbus.

To St. Louis, School of Plastic and Oral Surgery, Washington University, for a three weeks' course of intensive training in head surgery, from Fort Oglethorpe, Lieut. HEWITT JOHNSTON, Biloxi.

Missouri

To Boston, for a course of instruction in orthopedic surgery, from the Army Medical School, Lieut. NOBLE D. McCORMACK, St. Louis.

To Camp Beauregard, Alexandria, La., for duty, from Fort Riley, Lieuts. CHESTER A. POE, Fruitland; ROSCOE C. CAMPBELL, Highbee; LAWRENCE R. GAUSEPEHL, St. Elizabeth; JAMES A. LOGAN, Warsaw.

To Camp Dodge, Des Moines, Iowa, for duty, from Rockefeller Institute, New York, Lieut. FRANK R. TEACHENER, Kansas City.

To Camp Doniphan, Fort Sill, Okla., for duty, from Fort Riley, Kan., Lieut. SAMUEL B. AVERY, Troy.

To Camp Funston, Fort Riley, Kan., for duty as a member of a board of medical officers for the special examination of the command for tuberculosis, Lieut. JAMES R. SANFORD, Kansas City.

To Camp Greenleaf, Fort Oglethorpe, Ga., for a course of instruction, Lieuts. ROBERT R. CUTLER, Berger; LESLIE C. RANDALL, Licking.

To Camp Logan, Houston, Tex., for duty, from Fort Riley, Lieuts. NORMAN A. SCHWALD, Cole Camp; GEORGE H. BRAGDON, Reeds; JOSEPH T. BRENNAN, Vichy.

To Camp McArthur, Waco, Tex., for duty, Lieuts. HERBERT S. LANGSDORF, St. Louis; JOHN H. MURPHY, St. Louis.

To Camp Mills, Garden City, L. I., 41st Division for duty, from Allentown, Pa., Lieut. WILFORD A. FAIR, Pleasant Hill.

To Camp Shelby, Hattiesburg, Miss., for duty in the surgical service, from Fort Logan H. Rooks, Ark., Lieut. HORACE A. LOWE, Springfield.

To Camp Travis, Fort Sam Houston, Tex.; for duty as a member of a board of medical officers for the special examination of the command for tuberculosis, from Kansas City, Mo., Capt. MINFORD A. HANNA, Kansas City.

To Camp Upton, Yaphank, L. I., N. Y., for duty as oral surgeon, section of surgery of the head, from the School of Plastic and Oral Surgery, Washington University, St. Louis.

To Fort Benjamin Harrison, for a special course of instruction in tuberculosis examination, Lieuts. JAMES B. BIGGS, Bowling Green; JACOB J. KENNEDY, Frankford.

To Fort Oglethorpe, for a course of instruction, Lieuts. EDWARD A. HOEFER, Marceline; DOUGLAS WYATT, Mineola; GUSTAVE G. KALMUT, St. Louis; WILLIAM H. ALLEN, Ulrich; for the required course of instruction, from Fort Logan H. Roots, Ark., Lieut. OLIVER S. GILLILAND, Kansas City.

To Cornell Medical College, N. Y., for a course of instruction in military roentgenology, Lieut. ROZIN C. SHAWHAN, Hale.

To Kansas City, Mo., Aviation Section, Signal Corps, for duty, Lieut. THEODORE S. BLAKESLEY, Kansas City.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Lieut. CLYDE O. BROWN, St. Louis.

To Montgomery, Ala., Auxiliary Remount Depot, No. 312, for duty, from Fort Riley, Kan., Lieut. DAVID E. SCHMALHORST, St. Louis.

To New York City, Bellevue Hospital, from Fort Riley, for a course of instruction on fractures and on completion of this duty to Camp Kearney, Linda Vista, Calif., for temporary duty as surgical assistant, Lieut. RODERICK D. STREETOR, Moberly.

To Rockford, Ill., for duty from Fort Benjamin Harrison, Lieut. CHARLES M. BAUMAN, St. Louis.

To Washington, D. C., for temporary duty in the office of the Surgeon-General, from Fort Benjamin Harrison, Lieut. FRANK L. MORSE, St. Louis.

To his home on completion of the course at the school of plastic and oral surgery, Washington University, St. Louis, Mo., and returned to the inactive list of the Medical Reserve Corps, Lieut. SHERMAN B. HIBBARD, Kansas City.

Montana

To Camp Beauregard, Alexandria, La., for duty, from Fort Riley, Lieut. JAMES L. JENSON, Denton.

To Camp Travis, Fort Sam Houston, Tex., for duty, from Fort Riley, Kan., Lieuts. WILLIAM A. ALEXANDER, Forsyth; DAVID A. BAKER, Jordon.

To Fort Oglethorpe, for a course of instruction, Lieut. FERRIA L. ARNOLD, Billings.

Nebraska

To Boston, Massachusetts General Hospital, from Fort Riley, for a course of instruction on fractures and on completion of this duty to Camp Taylor, Louisville, Ky., for temporary duty as surgical assistant, Lieut. HENRY FITZGIBBON, Omaha.

To Camp Beauregard, Alexandria, La., for duty, from Fort Riley, Lieuts. ROY E. HALL, Fullerton; HENRY B. FROSH, Lincoln.

To Camp Custer, Battle Creek, Mich., for duty, Capt. DANIEL B. STIDWORTHY, Homer.

To Camp Greenleaf, Fort Oglethorpe, for a course of instruction, Lieut. TYRE K. JONES, Ainsworth.

To Camp Logan, Houston, Tex., for duty, from Fort Riley, Lieut. FRANCIS A. WELLS, Axtell.

To Camp Travis, Fort Sam Houston, Tex., for duty, from Fort Riley, Kan., Lieuts. CLIFFORD L. HOOPER, Lewellen; LEO D. HARMAN, Table Rock.

To Camp Wheeler, Macon, Ga., for duty, from Fort Oglethorpe, Lieut. EMIL A. LYNWOOD, Omaha.

To Fort Oglethorpe, for a course of instruction, Lieuts. LOUIS L. BURSTEIN, Blair; WALTER L. JOHNSON, Steinauer.

To Fort Riley, Kan., for duty, Lieut. WILLIAM C. BARTLETT, Alma.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Lieuts. RALPH C. CHRISTIE, Clarks; WILLIAM L. ROSS, Jr., Florence.

To New York City, Bellevue Hospital, from Fort Riley, for a course of instruction on fractures and on completion of this duty to Camp Dodge, Des Moines, Ia., for temporary duty as surgical assistant, Lieut. BENJAMIN R. McGRATH, Grand Island.

To Omaha, Neb., Aviation Section, Signal Corps, for duty, Capt. ADOLPH B. LINDQUEST, Omaha.

To report in person to the officer in charge, Physical Examining Unit, Aviation Section, Signal Corps, for duty, Lieut. CLAUDE T. UREN, Omaha.

Nevada

To Camp Logan, Houston, Tex., for duty, from Fort Riley, Lieut. WILLIAM C. ROLLER, Reno.

New Hampshire

To Boston, Mass., for a course of instruction in military roentgenology, Lieut. ERNEST W. LOWE, Fremont.

To Camp Greenleaf, Fort Oglethorpe, for a course of instruction, Lieut. THERON H. HUCKINS, Tilton.

To St. Louis, School of Plastic and Oral Surgery, Washington University, for a three weeks' course of intensive training in head surgery, Lieuts. JOHN J. OSTERHOUT, Keene; from Fort Benjamin Harrison, JOHN B. WARDEN, Whitefield.

New Jersey

To Boston, for a course of instruction in orthopedic surgery, from the Army Medical School, Lieut. CHARLES E. BRENN, Camden.

To Camp Beauregard, for duty, Capt. HERBERT L. COOPER, Pennsgrove.

To Camp Custer, Battle Creek, Mich., for duty, Lieut. BONNETTE W. HOAGLAND, Woodbridge.

To Camp Dix, Wrightstown, N. J., for temporary duty, Lieut. SIDNEY C. LEVINE, Paterson.

To Camp Gordon, Atlanta, Ga., for duty as a member of a board of medical officers for the special examination of the command for tuberculosis, from Fort Oglethorpe, Lieut. GEORGE E. HARHAN, Verona.

To Camp Greenleaf, Fort Oglethorpe, for a course of instruction, Lieuts. GEORGE T. BARCKLOS, Newark; WILLIAM HENLEY SMITH, Trenton.

To Camp Jackson, Columbia, S. C., for duty, from Fort Oglethorpe, Lieut. LEO E. FROOMESS, Elizabeth.

To Camp Mills, Garden City, L. I., 41st Div., for duty, from Allentown, Lieut. CLAUDE W. THOMAS, Woodstown.

To Camp Shelby, Hattiesburg, Miss., for duty, from Camp Jackson, Lieut. FRANK H. PINCKNEY, Morristown.

To Camp Wheeler, Macon, Ga., for duty, from Fort Oglethorpe, Lieuts. PHILIP DuB. BUNTING, Elizabeth; ARTHUR H. TEMPLE, Passaic.

To Fort Benjamin Harrison, for a special course of instruction in tuberculosis examination, Lieuts. LEROY D. WHITNEY, Belleville; GEORGE B. EMORY, Newark.

To Fort Oglethorpe, for a course of instruction, Lieut. JAMES S. KNOWLES, Tuckahoe.

To Charlotte, N. C., Campe Greene, for duty in the surgical service, from Fort Oglethorpe, Lieut. ADOLPH VON P. FARDELMANN, Jersey City.

To Chicago, Neurological School, for a course of instruction in brain surgery, Lieuts. STEPHEN T. QUINN, Elizabeth; EDWIN N. RIGGINS, Orange.

To New York City, Bellevue Hospital, for a course of instruction in fractures and on completion of this duty to United States General Hospital, for temporary duty, from United States Army General Hospital, Lieut. VICTOR B. SEIDLER, Montclair.

To New York City, Post-Graduate Medical School and Hospital, for a course of instruction in urology and dermatology, Lieut. ROCCO M. NITTOLI, Newark.

To Rockford, Ill., for duty, from Fort Benjamin Harrison, Lieut. RAOUL A. HERBERT, Cohoes.

To the inactive list of the Medical Reserve Corps, from Camp Devens, Ayer, Mass., Lieut. CAESARE MONDINI, Asbury Park.

New Mexico

To Camp Cody, Deming, New Mexico, for duty, Capt. OLIVER R. HAYMAKER, Roswell.

New York

To Army Medical School, Washington, D. C., for the required course of instruction, Lieuts. WESLEY C. COX, Brooklyn; WILLIAM S. MARTENS, Shrub Oak; from the Colon Hospital, Ancon, Canal Zone, WILLIAM S. McCANN, New York.

To Boston, Boston City Hospital for a course of instruction in fractures and on completion of this duty to Plattsburg Barracks, N. Y., for temporary duty, from Plattsburg Barracks, Major ROBERT W. ANDREWS, Poughkeepsie; for a course of instruction in orthopedic surgery from the Army Medical School, Lieuts. ARTHUR H. NYLEN, Brooklyn; EDMUND B. SPAETH, Elmira; JOHN W. McKEEVER, Newburgh; CORNELIUS A. DENEHY, New York.

To Camp Beauregard, Alexandria, La., for duty, from Fort Riley, Lieuts. EDWARD L. BENJAMIN and LEONARD A. JASLOW, New York; STANLEY S. INGALLS, Rome.

To Camp Custer, Battle Creek, Mich., for duty, from Fort Benjamin Harrison, Lieut. ROSWELL F. FOSTER, Westfield.

To Camp Devens, Ayer, Mass., for duty, Capt. FREDERIC S. COLE, Poland.

To Camp Gordon, Atlanta, Ga., for duty as a member of a board of medical officers for the special examination of the command for tuberculosis, from the Walter Reed General Hospital, Takoma Park, D. C., Lieut. EDWARD C. EHLERS, New York City.

To Camp Grant, Rockford, Ill., for duty, Lieut. ALLEN N. MOORE, Lockport.

To Camp Greenleaf, Fort Oglethorpe, for a course of instruction, Lieuts. FREDERIC DAMRAU and WILLIAM L. WOLFSON, Brooklyn; ROBERT P. DOBBIE, Buffalo; CLAUDE E. CHAPIN, Evans Mills; ELBRIDGE A. CARPENTER, PHILIP KORN and MATTHEW F. OLSTEIN, New York City; ERWIN C. MacFARLAND, Rome; WILLIAM W. CARLESTON, Waterloo.

To Camp Jackson, for duty as a member of a board of medical officers for the special examination of the command for tuberculosis, from Camp Wadsworth, Lieuts. EPHRAIM GOLDMAN, New York; EDWARD N. PACKARD, Saranac Lake.

To Camp Logan, Houston, Texas, for duty, from Fort Riley, Lieuts. JOHN E. HESLIN, Albany; RAY H. HUMPHREY, Union.

To Camp MacArthur, Waco, Texas, for duty, from Fort Benjamin Harrison, Major DANIEL A. SINCLAIR, New York.

To Camp Mills, Garden City, L. I., Forty-First Division, for duty, from Allentown, Pa., Lieuts. WILLIAM G. PHILLIPS, Jr., Brooklyn; MARK F. HEALY, New York.

To Camp Sevier, Greenville, S. C., for duty in the genito-urinary and dermatologic section, from Plattsburg Barracks, Lieut. JOSEPH A. LANAHAN, Albany.

To Camp Shelby, Hattiesburg, Miss., for duty in the orthopedic service, Capt. CLARENCE E. COON, Syracuse.

To Camp Sherman, Chillicothe, Ohio, for duty as a member of a board for the special examination of the command for tuberculosis, Capt. CONSTANTINE L. BJERRING, Brooklyn; Lieut. GEORGE H. SHAW, Camillus.

To Camp Travis, Fort Sam Houston, for duty from Fort Riley, Kan., Lieut. FREDERICK G. EATON, Saratoga.

To Camp Upton, Yaphank, L. I., N. Y., for duty as a member of a board for special examination of the command for tuberculosis, from Fort Myer, Lieut. HENRY C. DREW, Brooklyn.

To Camp Wadsworth, Spartanburg, S. C., for duty, Lieuts. GEORGE S. PRICE, Fairport; JAMES STEIN, New York City.

To Canal Zone, to report for duty in the pathologic laboratory of the Ancon Hospital, Lieut. RAY S. NELSON, New York City.

To Fort Benjamin Harrison, Ind., Hospital Train 21, for duty from Fort Benjamin Harrison, Lieut. LEO R. TIGHE, Poughkeepsie; for a special course of instruction in tuberculosis examination, Lieuts. SIDNEY TRATTNER, New York City, and ADELBERT C. ABBOTT, Syracuse.

To Fort Leavenworth, Kan., for duty from Reorganization Camp, Syracuse, NOAH P. NORMAN, Watkins.

To Fort Oglethorpe, Ga., Camp McClellan, Anniston, Ala., Camp Sheridan, Montgomery, Ala., Fort McPherson, Atlanta, Ga., Camp Wheeler, Macon, Ga., Camp Hancock, Augusta, Ga., Camp Jackson, Columbia, S. C., Camp Sevier, Greenville, S. C., Camp Wadsworth, Spartanburg, S. C., Camp Greene, Charlotte, N. C., for the purpose of consultation on matters pertaining to nervous and mental diseases, Major PEARCE BAILEY, New York City.

To Fort Oglethorpe, for a course of instruction, Lieuts. SAMUEL N. MOSKOWITZ, Brooklyn; ARTURE C. ARCHE, New York City.

To Fort Omaha, Neb., and report to the commanding officer, United States Army Balloon School, from Fort Benjamin Harrison, Lieut. PHILIP LEHMAN, Brooklyn.

To Fort Riley, Kan., for duty, Lieut. RANSLEY J. MILLER, New York.

To Fort Sheridan, Ill., for duty with Hospital Train B., from Fort Benjamin Harrison, Lieut. LEO R. TIGHE, Poughkeepsie.

To Fort Worth, Texas, Aviation Section, Signal Corps, for duty, Major ATTILIO N. CACCINI, New York City.

To Chicago Neurological School, for intensive training in brain surgery, from Fort Oglethorpe, Capt. RALPH P. HUYCK, Herkimer; Lieut. WELLINGTON A. LEBKICHER, Fordham.

To Gettysburg, Pa., for duty, from Field Hospital No. 30, Fort Ontario, Major ARTHUR W. CUTLER, Oreorta.

To Hoboken, N. J., for duty in base hospital to be established at Camp Merritt, Tenafly, N. J., Capt. EDWARD S. RIMER, West New Brighton.

To Kelly Field, Signal Corps, Aviation School, San Antonio, Texas, from Fort Benjamin Harrison, for duty, Lieuts. JOSEPH BRUMBER and MILTON H. GOLDBERG, Buffalo; JOHN C. LEE and PHILIP J. LIPSETT, New York City; RICHARD P. DOODY, Troy.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Lieuts. DAVID H. WEBSTER, New York City; GARRETT M. CLOWE, Schenectady; SCOTT R. FISHER, Syracuse.

To Cornell Medical College, New York City, for a course of instruction in military roentgenology, Lieuts. IRVIN S. STARTZ, Blackwell's Island; JAMES J. CLARK, Olean; from Camp Upton, Yaphank, L. I., N. Y., HYMAN I. TEPERSON, Brooklyn; HUGO A. SIEBENEICHEN, New York City.

To New York City, Post-Graduate Medical School and Hospital, for a course of instruction in urology and dermatology, Lieut. MAURICE LENZ, New York City.

To New York City, U. S. Army General Hospital No. 1, for duty, from Fort Benjamin Harrison, Lieut. WILLIAM P. HERRICK, New York City.

To Philadelphia, for the purpose of giving lectures at the Neurological School of the University of Pennsylvania, and on completion of this duty to return to his proper station in this city, Major THOMAS W. SALMON, New York City.

To Philadelphia, School of Plastic and Oral Surgery, for a three weeks' course of intensive training, Capt. CARL EGGERS, New York City.

To Rockefeller Institute, New York City, for a course of instruction, and on completion of this course to proceed to Plattsburg Barracks, from Fort Benjamin Harrison, Lieut. ISADORE SEFF, New York City; from Fort Slocum, New York, Lieut. PERCY H. WILLIAMS, New York City.

To Rockford, Ill., for duty from Fort Benjamin Harrison, Capt. OTTO C. J. VON RENNER, Buffalo; Lieuts. JOSEPH F. WARD, Brooklyn; FLOYD A. BENJAMIN, Cherry Creek; WALBER R. GRUNEWALD, Cresecnt; VICTOR G. BOURKE, Livingston; JAMES W. BEVERIDGE and HERBERT B. HENSON, New York City; JOHN L. BISHOP, Niagara Falls; RUPERT V. GIBBONS, Oyster Bay; CLAYTON L. GIFFORD, Troy.

To Syracuse, Reorganization Camp, for duty, from Base Hospital No. 32, Fort Porter, N. Y., Lieut. HOWARD C. FAIRBANKS, Tonawanda.

To Takoma Park, D. C., for a special course in tuberculosis examinations, Lieut. EDWARD C. EHLERS, New York City.

To Washington, D. C., and report to the Surgeon-General for duty in his office, Major SIGMUND POLLITZER, New York City.

To Yaphank, L. I., N. Y., for temporary duty, Lieuts. LEON ANTOPOLSKY and MORRIS BROOKS, New York City.

Honorably discharged from the Medical Reserve Corps on account of being physically disqualified for active service, Capt. WILLIAM J. JONES, Jr., and Lieut. FRANCIS A. AULETA, New York.

To the inactive list of the Medical Reserve Corps from duty at Camp Taylor, Washington, D. C., Lieut. ALFRED BRAUN, New York City.

To his home and the inactive list of the Medical Reserve Corps, from Fort Benjamin Harrison, Capt. Sidney Cohn, New York City.

To his home on completion of the course at the school of plastic and oral surgery, Washington University, St. Louis, and returned to the inactive list of the Medical Reserve Corps, Lieuts. SAMUEL L. FISHER, Brooklyn; JOHN L. EDWARDS, Hudson; and ROBERT T. FRANK, New York.

North Carolina

To Camp Beauregard, Alexandria, La., for duty, Lieuts. ANDREW B. HOLMES, Council; CHARLES T. ROEBUCK, Williamston; from Fort Oglethorpe, RANDOLPH E. WATTS, Oriental.

To Camp Greene, Charlotte, N. C., for duty in the surgical service, from Fort Oglethorpe, Lieut. WILLIAM W. GREEN, Tarboro.

To Camp Greenleaf, Fort Oglethorpe, for a course of instruction, Lieut. CHARLES A. HENSLEY, Burnsville.

To Camp Jackson, Columbia, S. C., for duty from Fort Oglethorpe, Lieuts. PINKNEY J. CHESTER, Mooresville; GEORGE B. MORRIS, Mount Olive; ALFRED MORDECAI, Raleigh.

To Camp Sevier, Greenville, S. C., for duty, Capt. RAYMOND POLLOCK, New-Bern.

To Camp Wheeler, Macon, Ga., for duty, from Fort Oglethorpe, Lieuts. NUMA H. CREWS, Henderson; HECTOR McL. PERSON, Saulston; CHARLES I. SWINDELL, Wilson.

To New Orleans, Charity Hospital, for a course of instruction on fractures, and on completion to proceed to Camp Gordon, for duty as surgical chief, Major JAMES S. BROWN, Hendersonville; on completion of this course to proceed to Camp Kearney, Linda Vista, Calif., for temporary duty as surgical assistant, Lieut. LAURIE J. ARNOLD, Lillington.

To Walter Reed General Hospital, Takoma Park, D. C., for a special course of instruction in tuberculosis examination, Lieut. JOHN S. McKEE, Raleigh.

North Dakota

To Camp American University, Washington, D. C., for duty with the Thirtieth Engineers, from the Army Medical School, Lieut. EDWARD F. KENNEDY, White Earth.

To Camp Logan, Houston, Texas, for duty, from Fort Riley, Lieut. AXEL W. SWENSON, Bisbee.

To Fort Oglethorpe, for a course of instruction, Lieut. JOHN P. GREAVES, Sherwood.

Ohio

To Boston, for a course of instruction in orthopedic surgery, from the Army Medical School, Lieut. OTTIS L. GRAHAM, Kinsville.

To Camp Beauregard, Alexandria, La., for duty, from Fort Riley, Capt. ODOS A. HOPKINS, Middlefield; Lieut. SHERMAN E. G. PEDIGO, Marshfield.

To Camp Cody, Deming, N. M., for duty, Lieut. FRANK E. SNIDER, Madisonville.

To Camp Custer, Battle Creek, Mich., for duty, Lieut. WILMER E. GRIFFITH, Hamilton.

To Camp Devens, Ayer, Mass., for duty at the Remount Station, from Fort Riley, Lieut. JULIEN E. BENJAMIN, Cincinnati.

To Camp Dodge, Des Moines, Iowa, for duty at the Remount Station, from Camp Funston, Fort Riley, Kan., Lieutenant BENJAMIN, Cincinnati.

To Camp Doniphan, Fort Sill, Okla., for duty, from Fort Riley, Lieut. WILLIAM P. V. EVERS, Tedrow.

To Camp Greenleaf, Fort Oglethorpe, Ga., for a course of instruction, Capts. STARR FORD, Cincinnati; RUFUS SOUTHWORTH, Glendale; Lieuts. ROBERT R. SATTLER and RALPH W. STALEY, Cincinnati; FRANK S. GIBSON, Cleveland; JOYCE WARWICK VAN LUE, Gettysburg.

To Camp Jackson, Columbia, S. C., for duty from Fort Oglethorpe, Lieut. VERNON G. DANFORD, Trimble.

To Camp MacArthur, Waco, Texas, for duty, from Fort Benjamin Harrison, Capt. ORRA L. NORRIS, Deshler; Lieuts. CHARLES H. WELLS, Columbus; WILLIAM T. STEWART, Morning Sun.

To Camp Mills, Garden City, L. I., Forty-First Division, for duty, from Allentown, Pa., Lieut. THOMAS R. KENNERDELL, Cleveland.

To Camp Sheridan, Montgomery, Ala., for duty, Lieut. RALPH W. HARDINGER, Cincinnati.

To Camp Travis, Fort Sam Houston, Texas, for duty, from Fort Riley, Kan., Lieuts. CLARENCE M. DOUTHITT, Athens; MORTON R. KITTREDGE, Evansport; CARL E. EDWARDS, Jolly; HERMAN O. HODSON, Washington.

To Camp Wadsworth, Spartanburg, S. C., for duty, Lieuts. HARRY C. CRAGG, Cincinnati; JOHN H. NORRICK, Fredricktown; CHARLES C. MANDEVILLE, Galion.

To Chicago Neurological School, for a course of instruction in brain surgery, Lieuts. CHARLES E. KIELY, Cincinnati; from Fort Benjamin Harrison, SAMUEL ZIELONKA, Cincinnati.

To Cincinnati, Aviation Section, Signal Corps, for duty, Capt. ARTHUR C. BACHMEYER, Cincinnati.

To Fort Benjamin Harrison, Ind., for a special course of instructions in tuberculosis examination, Lieuts. MARION WHITACRE, Cincinnati; CHARLES R. DEEDS, Dalton.

To Fort Oglethorpe, for a course of instruction, Lieuts. ARTHUR L. STOTTER, Cleveland; CARROLL H. SKEEN, Greenfield; CLYDE B. TERWILLEGAR, Milford.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Lieut. JOHN C. LARKIN, Hillsboro.

To New York City, Bellevue Hospital, from Fort Riley, for a course of instruction on fractures and on completion of this duty to Camp Bowie, Fort Worth, Texas, for temporary duty as surgical assistant, Lieut. SAMUEL C. SMITH, Ada; on completion of the duty to Fort McPherson, Ga., for temporary duty, from Fort Oglethorpe, Lieut. FLOYD W. McRAE, Jr., Cleveland.

To Cornell Medical College, New York City, for a course in military roentgenology, Lieut. HORACE K. BECKWITH, Toledo.

To Philadelphia, School of Plastic and Oral Surgery, Evans Dental Institute, for a three weeks' course of intensive training, from Columbus Barracks, Capt. JOHN W. MEANS, Columbus; Lieut. LOUIS H. SCRIVER, Cincinnati.

To Pittsburgh, from Fort Benjamin Harrison, for a course of instruction on fractures, and on completion of this duty to proceed to Camp Meade, Annapolis Junction, Md., for temporary duty as surgical assistant, Capt. ROBERT C. RIND, Springfield; on completion of the duty to Camp Pike, Little Rock, Ark., for temporary duty as surgical assistant, Lieut. HERMAN P. McGAY, Cleveland; on completion of this duty to proceed to Jefferson Barracks, Mo., for duty as surgical assistant, Lieut. DELBERT E. HOOVER, Warren.

To Rockefeller Institute, New York City, for a course of instruction in laboratory work, from Allentown, Pa., Lieuts. ROY P. FORBES, Cleveland; WILLIAM H. BUNN, Youngstown; from Fort Thomas, Ky., JOSEPH C. RANSOHOFF, Cincinnati.

To St. Louis, School of Plastic and Oral Surgery, Evans Dental Institute, for a three weeks' course of intensive training in head surgery, from Fort Oglethorpe, Lieut. ARTHUR J. McCRACKEN, Bellefontaine; School of Plastic and Oral Surgery, Washington University, for a three weeks' course of intensive training in head surgery, from Fort Oglethorpe, Lieut. THOMAS A. MITCHELL, Owensville.

Oklahoma

To Camp Beauregard, Alexandria, La., for duty, Lieuts. FRANCIS R. FIRST, Cashion; CLAUDE E. PUTNAM, Oklahoma City; GEORGE W. TILLY, Pryor.

To Camp Cody, Deming, N. M., for duty, Lieut. ULUS E. NICKELL, Davenport.

To Camp Doniphan, Fort Sill, Okla., for duty, Lieuts. DANIEL S. LEE, Guymon; PAUL R. SIBERTS, Cooperton.

To Camp Jackson, Columbia, S. C., for duty, from Fort Oglethorpe, Lieut. FRANK W. ROGERS, Carnegie.

To Camp Logan, Houston, Texas, for duty from Fort Riley, Lieut. ISAAC F. CLARK, Avant.

To Camp MacArthur, Waco, Texas, for duty, Lieuts. WILLIAM A. L. GOSSEY, Prague; JOSEPH H. JANSING, Tryon.

To Chicago Neurological School, Presbyterian Hospital, for intensive training in brain surgery, from Fort Benjamin Harrison, Lieut. Fred L. Patterson, Fargo.

To Minneola, L. I., for duty, Aviation Section, Lieuts. MONTIE C. COMER, Clinton; ROBERT C. McCREERY, Erich; GEORGE A. NYLUND, Gate; ROSS D. LONG, Oklahoma.

Oregon

To Camp America University, Washington, D. C., for duty with the Thirtieth Engineers from Fort Leavenworth, Kan., Lieut. PHILIP I. KEISER, North Bend.

To Camp Beauregard, Alexandria, La., for duty as plastic and oral surgeon, section of surgery of the head, from School of Plastic and Oral Surgery, Washington University, St. Louis, Capt. JUSTIN M. WAUGH, Hood River.

To Camp Kearney, Linda Vista, Calif., for duty as a member of a board for the special examination of tuberculosis, Lieut. LEON G. HOLLAND, Portland.

To Camp Lewis, American Lake, Wash., for duty at the remount depot, Lieut. WILL H. POTTER, Scio.

To Camp Logan, Houston, Texas, for duty, from Fort Riley, Lieut. JOHN N. SMITH, Salem.

Pennsylvania

To Army Medical School, Washington, D. C., for the required course of instruction, Lieut. ROBERT SHOEMAKE, Ogontz.

To Boston, for a course of instruction in orthopedic surgery, Lieuts. ALBERT W. GREENWALL, HENRY K. B. HUFFORD, Philadelphia; HAROLD D. ROGERS, West Chester; SUMMER C. SIMPSON.

To Camp Dix, Wrightstown, N. J., for duty, from Fort Oglethorpe, Lieut. RUSSELL G. WITMAN, Conshohocken.

To Camp Gordon, Atlanta, Ga., from Camp Greenleaf, Fort Oglethorpe, Ga., Lieuts. ANDREW ANDERS, HENRY C. GODFREY, Philadelphia; for duty as member of a board of medical officers for the special examination of the command for tuberculosis, AUGUSTUS H. EGGERS, Pittsburgh.

To Camp Greene, Charlotte, N. C., for duty as assistant to the chief of the medical service, from Fort Benjamin Harrison, Lieut. PHILIP A. SHEAFF, Philadelphia.

To Camp Greenleaf, Fort Oglethorpe, Ga., for a course of instruction, Capt. CLARENCE F. M. LEIDY, Philadelphia; Lieuts. IVOR D. FENTON, Mahanoy City; JOHN ALEXANDER, WILLIAM V. COYLE, Philadelphia; FRANK W. McCORKLE, Pittsburgh.

To Camp Hancock, Augusta, Ga., for duty, from Camp Wadsworth, Major WILLIAM P. BARNDOLLAR, Pittsburgh.

To Camp Jackson, Columbia, S. C., for duty as a member of a board of medical officers for the special examination of the command for tuberculosis, Major JOHN W. BOYCE, Pittsburgh; Lieuts. URBAN H. REIDT, Jeanette; EDGAR N. COWEN, Philadelphia; for duty from Fort Oglethorpe, JOSEPH C. McFATE, Meadville; AUGUSTINE J. MULLIGAN, Mont Alto; HARRY CHERASHORE, ADOLPH H. FRIEDMANN, WILLIAM HANNUM, Philadelphia; CLARENCE W. LURTIG, DAVID McCULLOCH, Pittsburgh.

To Camp Lee, Petersburg, Va., for duty, Lieut. CHESTER S. SIERAKOWSKI, McKees Rocks.

To Camp Logan, Houston, Texas, for duty from Fort Riley, Lieuts. JOHN R. MARTIN, Bitner Gap; FRANCIS I. STUART, Philadelphia.

To Camp MacArthur, Waco, Texas, for duty, from Fort Benjamin Harrison, Lieuts. GEORGE B. BEACH, Scranton; CLAUDE W. WALKER, Schenectady.

To Camp Meade, Annapolis Junction, Md., for duty, Lieut. WARREN H. BUTZ, Cornwells.

To Camp Mills, Garden City, L. I., Forty-First Division, for duty from Allentown, Pa., Lieuts. DWIGHT E. LONG, Freeburg; CHARLES J. CAVANAUGH, JOSEPH W. DENNIN, Philadelphia; WALTER E. LANG, Allentown; HERBERT L. RANSOM, Pittston; CONNEL E. MURRIN, Scranton; JAMES L. JUNK, Connelsville; DONALD D. JOHNSTON, Philadelphia.

To Camp Pike, Little Rock, Ark., for duty, Lieut. THOMAS McS. BARRETT, Dixmont.

To Camp Sevier, Greenville, S. C., for duty, Lieut. BRADLEY H. HOKE, Coalport.

To Camp Shelby, Hattiesburg, Miss., from Camp Greenleaf, Lieut. ADDISON M. ROTHROCK, Reading.

To Fort Sheridan, Ill., for duty, with Hospital Train B., from Fort Benjamin Harrison, Lieut. SIGMUND S. GREENBAUM, Philadelphia.

To Camp Travis, Fort Sam Houston, Texas, for duty, Lieut. THOMAS G. GREIG, Pittsburgh.

To Camp Upton, Yaphank, L. I., N. Y., for duty in the genito-urinary and dermatologic section, Lieut. JOSEPH V. KLAUDER, Philadelphia.

To Camp Wheeler, Macon, Ga., for duty from Fort Oglethorpe, Lieuts. JACOB J. SCHWEGLER, Kennett Square; WILLIAM F. CRAIG, Philadelphia.

To Fort Benjamin Harrison, Hospital Train 21, for duty, from Medical Officers Training Camp, Fort Benjamin Harrison, Lieut. SIGMUND S. GREENBAUM, Philadelphia.

To Fort Monroe, Va., for duty in the laboratory of the hospital in connection with pneumonia work, from Army Medical School, Lieut. MAURICE GOLDBERG, Philadelphia.

To Fort Sam Houston, Texas, for treatment at the base hospital, from Austin, Texas, Lieut. GEORGE W. H. CONRAD, Philadelphia.

To Fort Worth, Texas, Aviation Section Signal Corps, for duty, Lieut. EPHRAIM E. CAMPBELL, Butler.

To Chicago Neurological School, for a course of instruction, on completion of which to return to his home and to the inactive list of the Medical Reserve Corps, Major SAMUEL VICTOR KING, Pittsburgh; for intensive training in brain surgery, and on completion of this duty to return to his proper station, from Camp Greenleaf, Fort Oglethorpe, Ga., Capt. DAVID O. THOMAS, New Kensington; Lieuts. WILLIAM J. POTTS, Greensburg; THOMAS P. MARTIN, Mayfield; ERNEST W. DOWNTON, Starrucca; DENNIS R. MURDOCK, Greensburg.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Lieuts. WILLIAM S. SHIMER, Philadelphia; JAMES E. DULL, Somerset; FOSTER A. BECK, Wind Gap, Pa.; JAMES M. HAMMETT, Winburne.

To New Orleans, Charity Hospital, for a course of instruction on fractures, and on completion to proceed to Camp Wadsworth, for duty as surgical assistant, Capt. STILLWELL C. BURNS, Philadelphia; for a course of instructions on fractures, and on completion of this duty to Houston, Texas, Camp Logan, for temporary duty as surgical assistant, Lieut. JAMES C. MURFIN, Philadelphia.

To New York City, for instruction in orthopedic work, from Army Medical School, Lieuts. PHILIP J. LUKENS, Jr.; CHARLES E. YOHO, Philadelphia.

To New York City, Bellevue Hospital, from Fort Oglethorpe, for a course of instruction on fractures and on completion of this duty to Camp Green Charlotte, N. C., for temporary duty as surgical assistant and anesthetist, Lieut. WALTER B. HARVEY, Pittsburgh; from Walter Reed General Hospital, Takoma Park, D. C., for a course of instruction on fractures and on completion of this duty to return to his proper station, Lieut. BASIL R. BELTRAM, Philadelphia.

To Philadelphia, Pa., University Hospital, for a course of instruction on fractures and on completion of this duty to Camp Sevier, Greenville,

S. C., for temporary duty, from Camp Greenleaf, Fort Oglethorpe, Capt. McE. LUMAN, Uniontown; for a course of instruction on fractures and on completion of this to proceed to Camp Meade, Annapolis Junction, Md., for duty as surgical assistant, from temporary duty at Camp Meade, Lieut. HAROLD E. HERSH, Palmerton.

To Philadelphia, Pennsylvania School of Plastic and Oral Surgery, Evans Institute, for a course of instruction and on completion to return to his proper station, Lieut. CHARLES W. HOFFMAN, Rimersburg.

To Rockefeller Institute, New York City, for a course of instruction and on completion of this duty to proceed to Camp Hancock, Augusta, Ga., for temporary duty, from Camp Hancock, Augusta, Ga., Lieut. GEORGE M. LAWS, Philadelphia.

To Rockford, Ill., for duty from Fort Benjamin Harrison, Major ARTHUR W. YALE, Philadelphia.

To St. Louis, School of Plastic and Oral Surgery, Washington University, for a three weeks' course of intensive training in head surgery, from Fort Oglethorpe, Lieut. THOMAS S. HICKS, Braddock.

To Yaphank, L. I., N. Y., for duty, from Camp Upton, Lieut. SAMUEL H. BETTLER, Brighton.

To his home and the inactive list of the Medical Reserve Corps, Capt. ARTHUR C. MORGAN, Philadelphia.

To his home and the inactive list of the Medical Reserve Corps, on account of being physically disqualified for active service, Lieut. HAROLD A. CHERING, Edinboro.

To his home on completion of the course at the school of plastic and oral surgery, Washington University, St. Louis, and returned to the inactive list of the Medical Reserve Corps, Lieut. WILLIAM BATES, Philadelphia.

Honorably discharged from the Medical Reserve Corps, Lieut. FRANCIS A. McMULLIN, Philadelphia.

Rhode Island

To Boston, for duty in connection with the division of otolaryngology, section of surgery of the head, Capt. ALVAH A. FISHER, Providence.

To Rockford, Ill., for duty from Fort Riley, Lieut. BYRON J. BROWN, Providence.

South Carolina

To Camp Jackson, Columbus, S. C., for duty, from Fort Oglethorpe, Lieuts. JAMES A. NORTON, Conway; FRANK D. MOWER, Newberry.

To Camp Wadsworth, Spartanburg, S. C., for duty, Lieut. BENTON McQ. MONTGOMERY, Kingstree.

To Fort Oglethorpe, for a course of instruction, Lieuts. DANIEL D. STRAUSS, Bennettsville; DAVID L. BRYSON, Winnsboro.

To Philadelphia, for temporary duty in the Aviation Section, Signal Corps, and on completion to return to Charleston, S. C., for duty in the physical examining unit, Aviation Section, Signal Corps, Capt. CHARLES W. KOLLOCK, Charleston.

South Dakota

To Camp Beauregard, Alexandria, La., for duty, from Fort Riley, Lieut. FRED F. KEENE, Wessington Springs.

To Camp Dodge, Des Moines, Iowa, for temporary duty, Capt. ALBERT E. BROWN, Webster.

Tennessee

To Army Medical School, Washington, D. C., for the required course of instruction, Lieut. STEWART LAWWILL, Chattanooga.

To Camp Beauregard, Alexandria, La., for duty, Lieut. JOHN W. FROST, Dyer.

To Camp Jackson, Columbia, S. C., for duty as a member of a board of medical officers for the special examination of the command for tuberculosis, Lieuts. LEOPOLD SHUMACKER, Chattanooga; OWEN S. DEATHERIDGE, Nashville; for duty, from Fort Oglethorpe, Lieut. JUSTIN E. LACY, Jasper.

To Camp Sevier, Greenville, S. C., from Fort Oglethorpe, for duty, Lieuts. GEORGE E. WILSON, Cardiff; HERBERT ACUFF, Knoxville; KYLE C. COPENHAVER, Mascot; WILLIAM H. DELOP, LaFollette.

To Fort Oglethorpe, for a course of instruction, Lieuts. WILLIAM K. VANCE, JR., Bristol; WENDALL P. BAUGH, Elkton; THOMAS W. MENSEE, Nashville; WILLIAM A. CASHION, Puryear.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Lieut. CLYDE C. HARDISON, Lewisburg.

To New Orleans Charity Hospital, for a course of instruction on fractures, and on completion of this course to proceed to Hattiesburg, Miss., for temporary duty as surgical assistant, from Fort Oglethorpe, Lieut. DANIEL B. CLIFFE, Franklin.

To St. Louis School of Plastic and Oral Surgery, Washington University, for a three weeks' course of intensive training in head surgery, from Fort Oglethorpe, Lieut. DORSEY T. GOULD, Lawrenceburg.

Texas

To Army Medical School, Washington, D. C., for the required course of instruction, Lieut. WILLIAM E. NESBIT, San Antonio.

To Boston, for a course of instruction in orthopedic surgery, from the Army Medical School, Lieuts. EDMUND D. MILLS, Galveston; ROBERT L. HOWELL, Snyder.

To Camp Bowie, Fort Worth, Texas, for duty, Lieut. ROBERT B. WOLFORD, Childress.

To Camp Cody, Deming, N. M., for duty, Lieuts. HENRY BRADBROOK, Ca Springs; ROBINSON H. SALMON, Maypearl; JOSEPH V. DOZIER, Menard; ISADOR BRAUN, Shiner.

To Camp Greenleaf, Fort Oglethorpe, for a course of instruction, Lieut. JESSE LEE HALL, Bertram.

To Camp Logan, Houston, Texas, for duty from Fort Riley, Capt. ALE OLSON, Morse.

To Camp MacArthur, Waco, Texas, for duty, Lieuts. JOHN W. BROWN, Pearsall; WESLEY S. NEAL, Weatherford.

To Camp Travis, Fort Sam Houston, Texas, for duty as a member of a board of medical officers for the special examination of the command for tuberculosis, Capt. GEORGE S. MILNEA, Houston; for duty as plastic and oral surgeon, section of surgery of the head, from School of Plastic and Oral Surgery, Washington University, St. Louis, Capt. ROBERT F. MILLER, Brenham.

To Fort Oglethorpe, for a course of instruction, Lieuts. ERNEST J. STEVES, San Antonio; C. ZENO HOLT, Texaline.

To Love Field, Hawes, Texas, for duty with the Signal Corps, Aviation School, Lieut. JAMES T. COLWICK, Dallas.

To Mineola, L. I., Aviation Section, Signal Corps, for duty, Lieuts. CLIFFORD C. PARRISH, Fort Worth; OMER O. GAIN, Honey Grove; GARNETT MILLER, Moody; AARON L. ROBERTS, Myra; ARTHUR G. NEIGHBOR, Rosenberg; HENRY W. PICKETT, Sulphur Springs.

To New Orleans Charity Hospital, for a course of instruction in fractures and on completion of this duty to Camp Logan, Houston, Texas, Thirty-Third Division, for temporary duty in the base hospital, from base hospital, Camp Logan, Houston, Texas, Lieut. WILLIAM P. BARTON, Overton.

To report by telegraph to the commanding general, Southern Department, for assignment to duty, from Camp Cody, Deming, N. M., Capt. JOSEPH S. JONES, Galveston.

To report by wire to the commanding general, Southern Department, for assignment to duty, Lieuts. MARCUS M. CARR, GEORGE B. MILLER, Dallas.

Utah

To Fort Oglethorpe, for the required course of instruction, from Camp Beauregard, Alexandria, La., Lieut. FRANCIS C. TYNG, Salt Lake City.

Vermont

To Boston City Hospital, from Fort Ethan Allen, Vt., for a course of instruction in fractures and on completion of this course to proceed to Fort Ethan Allen, Vt., and report to the commanding general, Northeastern Department, Lieut. ROBERT L. MAYNARD, Burlington.

Virginia

To Boston, for a course of instruction in orthopedic surgery, from the Army Medical School, Lieut. PERCY E. DUGGINS, Norfolk.

To Camp Greenleaf, Fort Oglethorpe, for a course of instruction, Lieut. FRANK L. WYSOR, Clifton Forge.

To Mineola, L. I., N. Y., Aviation Concentration Camp, for duty, from Essington, Pa., Capt. JOSEPH N. BARNEY, Fredericksburg; Lieut. HARRY D. HOWE, Hampton.

To Philadelphia, School of Plastic and Oral Surgery, Evans Dental Institute, for a three weeks' course of intensive training, Lieut. SAMUEL P. CAST, Portsmouth.

To return to the inactive list of the Medical Reserve Corps, Lieut. HARRY D. HOWE, Hampton.

Washington

To Chicago Neurological School, for a course of instruction in brain surgery, Lieut. GEORGE W. SWIFT, Seattle.

To communicate by telegraph with the commanding officer, Western Department, for assignment to duty, Capt. ALBERT LESSING, Seattle.

To communicate by telegraph to the commanding general, Western Department, for assignment to duty, Capt. MARION M. NULL, Seattle.

To Fort Oglethorpe, Ga., for a course of instruction, Lieut ARTHUR B. GOULD, Kent.

West Virginia

To Camp Meade, Annapolis Junction, Md., for duty, Lieut. MICHAEL P. LINK, Matewan.

To Camp Greenleaf, Fort Oglethorpe, Ga., for a course of instruction, Lieut. JULIUS C. SCHULTZ, Huntington.

To Camp Lee, Petersburg, Va., for duty, Lieuts. HARLOW R. CONNELL, Kimball; JOHN S. GIBSON, Wevaco.

To Camp MacArthur, Waco, Texas, for duty, from Fort Benjamin Harrison, Lieut. GEORGE W. SHRIVER, Clendenin.

To Fort Oglethorpe, for a course of instruction, Lieut. RUFUS E. WOODALL, Charleston.

Honorably discharged from the Medical Reserve Corps, on account of being physically disqualified for active service, Lieut. JAMES R. VERMILLION, Princeton.

Wisconsin

To Boston, Massachusetts General Hospital, from Medical Officers' Training Camp, Fort Riley, for a course of instruction on fractures and on completion of this duty to Camp Pike, Little Rock, Ark., for temporary duty as surgical assistant, Lieut. FRANK H. RUSSELL, Neenah.

To Camp Beauregard, Alexandria, La., for duty, Lieut. JOHN E. McGINNIS, Green Bay.

To Camp Custer, Battle Creek, Mich., for duty, Capt. CLEMENT F. DOUGHERTY, Richland Center.

To Camp Doniphan, Fort Sill, Okla., for duty from Fort Riley, Kan., Lieut. HARRY E. MacLAUGHLIN, Waupaca.

To Camp Grant, Rockford, Ill., for duty, Lieut. WILLIAM T. LOCHEMES, Milwaukee.

To Camp Logan, Houston, Texas, for duty from Fort Riley, Lieuts. WILLIAM H. REMER, Chaseburg; LESLIE J. PHILLIPS, Weyerhauser.

To Camp Travis, Fort Sam Houston, Texas, for duty, from Fort Riley, Kan., Lieut. ERNEST C. HOWELL, Fennimore; RALPH T. GILCHRIST, Milwaukee; JOHN H. HOGAN, Racine.

To Fairfield, Ohio, Signal Corps, Aviation Section, for duty with the squadron at that station, Capt. WILL G. MERRILL, Grand Rapids.

To Fort Oglethorpe, for a course of instruction, Lieuts. JAMES G. CONLEY, Darlington; LEON H. FLANCHER, Milwaukee.

To Kelly Field, Signal Corps, Aviation School, San Antonio, Texas, from Fort Benjamin Harrison, Lieut. JAMES J. FITZGERALD, Eagle.

To Los Angeles, for a course of instruction in military roentgenology, Lieut. JAMES P. GILLIS, Deerbrook.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

New Officers Elected.—At a meeting of the California Board of Medical Examiners, held October 15, the following officers were elected: Dr. Percy T. Phillips, Santa Cruz, president; Dr. Harry V. Brown, Los Angeles, vice president, and Dr. Charles B. Pinkham, San Francisco, secretary-treasurer.

New Tuberculosis Sanatorium.—The board of supervisors of Los Angeles County has recommended the purchase of the 454-acre Wilson ranch property at Sylmar, in the San Fernando Valley, as a site for a tuberculosis sanatorium for the joint use of Los Angeles, Santa Barbara and Ventura counties. It is planned to expend $100,000 for the erection of buildings, of which Los Angeles will appropriate $70,000, the balance being divided between Santa Barbara and Ventura counties.

DISTRICT OF COLUMBIA

Physicians Plan Club.—The District Medical Society is planning to erect a club house to cost $100,000. The building will have an amphitheater with a seating capacity of 600.

Society Celebrates Centennial.—October 17, the Medical Society of the District of Columbia celebrated its one hundredth anniversary. The meeting was held at the New National Museum, and was presided over by Dr. G. Wythe Cook, who made an address formally instituting the celebration of the society centennial. Addresses were then made by Dr. Guy Steele, Cambridge, president of the Medical and Chirurgical Society of Maryland; Dr. John Champlin, president of the Rhode Island Medical Society, and Dr. Elmer B. Cooley, Danville, president of the Illinois State Medical Society. A historical address was delivered by Dr. Daniel Smith Lamb. At the centennial banquet held at the Hotel Raleigh in the evening, Dr. Joseph Stiles Wahl officiated as toastmaster.

GEORGIA

Tuberculosis Clinics.—At the trimonthly meeting of the Central Council of Charitable and Philanthropic Organizations of Savannah, held October 9, recommendations were made for the establishment of three tuberculosis clinics.

License Revoked.—A report from the State Board of Medical Examiners of Georgia states that the license of Dr. Charles W. Miller, Atlanta, has been revoked on the ground that he had sold forged eclectic licenses to two individuals to practice medicine.

First District Physicians Elect Officers.—At the annual meeting of the Congressional District Medical Society, held in Savannah, Statesboro was selected as the next place of meeting, and the following officers were elected: president, Dr. Robert L. Miller, Waynesboro, and vice presidents, Drs. Luther A. De Loach, Glennville, and Antonio J. Waring, Savannah.

New State Board Members and Officers.—Dr. Alexander G. Little, Valdosta, has been appointed by the governor as a member of the State Board of Medical Examiners of Georgia, in place of Dr. Frederick D. Patterson, Cuthbert, term expired. Dr. Henry W. Terrell, La Grange, was appointed to fill the vacancy caused by the death of Dr. Francis M. Ridley. At the October meeting of the board, Dr. Jarrett W. Palmer, Ailey, was elected president; Dr. Alfred F. White, Flovilla, vice president, and Dr. Charles T. Nolan, Marietta, secretary-treasurer.

ILLINOIS

Billings and His Russian Experiences.—Dr. Frank Billings, head of the American Red Cross Mission to Russia, will narrate his experiences at the benefit meeting for Russian War Relief, to be held in Orchestra Hall, Chicago, November 13, by the Chicago Anti-Cruelty Society.

Red Cross Council Named.—Dr. George T. Palmer, Springfield, president of the Illinois Tuberculosis Association, has appointed the following as war council to have charge of the sale of 1917 Red Cross seals in the state: Dr. Frank Billings, Chicago; Dr. C. St. Clair Drake, director of the Illinois Department of Public Health; Dr. James W. Pettit, Ottawa, and Mr. W. T. Thurber, association director of the Red Cross for Illinois.

Personal.—Dr. Arrie Bamberger, Chicago, has been appointed attending physician at Cook County Hospital.——Lieut. Walter D. Stevenson, M. R. C., U. S. Army, Quincy, has been ordered to active duty at Camp Sherman, Chillicothe, Ohio, and has been placed in charge of the division of surgery of the head.——Dr. Jonathan M. Wyland, Moline, underwent an operation on the spine, at Mercy Hospital, Davenport, November 2.

Merger of Societies.—It is suggested that ex-interns of the Illinois Charitable Eye and Ear Infirmary, Chicago, who have been gathering about once a year for clinics and discussions, join with graduate interns of other recognized hospitals for the care of the diseases of the eye, ear, nose and throat, that a larger organization may be formed and greater good accrue to the membership. For particulars regarding this new organization, ex-interns are requested to address Dr. Ralph H. Woods, La Salle.

Chicago

Physicians' Club Gives Banquet to Billings.—At a testimonial banquet given to Dr. Billings by the Physicians' Club of Chicago, November 1, a special event was the presentation to Dr. Billings of a silver loving cup with the following inscription:

"To our friend, Dr. Frank Billings, the great scientist, philanthropist, and patriot. Presented by the Physicians' Club of Chicago, Nov. 1, 1917."

The cup was presented to Dr. Billings, on behalf of the club, by Governor Frank O. Lowden of Illinois, who was introduced by Dr. A. M. Corwin, president of the club. Governor Lowden said in part:

"The very pleasant duty falls to me tonight to present this handsome loving cup to your distinguished guest of honor. I appreciate more than I can express that this cup has been put in my hands to be placed in his. All of us not only admire Dr. Billings for his great ability during all these years, but personally I have a deep affection for him, and I know that I voice the sentiments of not only those present, but the people of Illinois and of other states when I say that he has justly earned this gift on account of the great and distinguished services he has rendered to humanity, to his country, and as I believe, to the world."

Dr. Arthur O'Neil was next introduced as toastmaster of the evening. Other speakers who addressed the meeting were the Russian Consul, J. Antoine Volkoff, Marquis Eaton of the Chicago chapter of the Red Cross, Dr. Arthur Dean Bevan, President of the American Medical Association, and Dr. William E. Quine.

INDIANA

Conference on Mental Defectives.—The Indiana Society of Mental Hygiene, and the State Committee on Mental Defectives will hold a general conference on mental defects, at the Hotel Claypool, Indianapolis, November 13.

Bonds for Hospital Sold.—A bond issue of $100,000 for the Allen County Tuberculosis Hospital was sold, October 13, to the German-American National Bank of Fort Wayne on a bid of $371 premium. Work on the hospital will be started as soon as the contract is awarded.

Personal.—Dr. Joseph E. Sharp, Indianapolis, was shot and seriously wounded, October 27, by an Italian, who was frenzied with grief on account of the death of his child.——Dr. Oscar E. McWilliams, Anderson, is ill at his home.——Dr. Otto B. Pettijohn was run down by an automobile in Indianapolis, October 22, and was seriously injured about the head and shoulders.—Dr. Solomon P. Stoddard, Indianapolis, was struck and slightly injured by an automobile, October 22.——Dr. Adrian E. Fauve, Fort Wayne, has arrived in Europe.——Dr. Edmund M. Van Buskirk has been appointed president of the Fort Wayne Board of Health, succeeding Dr. Henry O. Bruggeman, resigned to enter the military service.——Dr. Harmer M. Newman, South Milford, is reported to be critically ill.——Dr. Alfred Henry, Indianapolis, has been elected president of the Mississippi Valley Conference on Tuberculosis.

MARYLAND

Training in Hospitals.—The Johns Hopkins Hospital and the South Baltimore Eye, Ear and Throat Hospital have come forward and offered to take some of the men stationed at Fort McHenry and give them practical training. The Hopkins has taken six men, while the South Baltimore Eye, Ear and Throat Hospital has asked for four.

Dinner for Physicians.—A dinner was recently given at the Belvedere Hotel by a number of officers of the Medical

Reserve Corps, selected by the Surgeon-General's Office to take special studies in psychiatry at the Henry Phipps Psychiatric Clinic, in honor of their teachers, Dr. Adolf Meyer, Dr. Charles M. Campbell and Dr. Francis L. Dunham.

Personal.—Dr. Harry S. Jarrett of Towson is a patient at the Mercy Hospital, in Baltimore, where he has been ordered to take absolute rest for several weeks.——Dr. Albert G. Webster, Belmar, has been appointed health officer of the Fourteenth District of Baltimore County, succeeding Dr. William F. Clayton, Overlea, deceased.——Dr. William S. Baer, Baltimore, who went across with the Johns Hopkins unit, has arrived in Paris.

Committee to Study Schoolchildren.—A committee was appointed at a meeting in Baltimore, October 26, to make a survey of all children attending school to determine the number of mentally deficient pupils in Baltimore schools. It will be given a hearing at a meeting of the school board, whose cooperation will be asked in following up the plan. Dr. F. J. Dunham of the Henry Phipps Clinic, Johns Hopkins University, Dr. William T. Howard of the city health board, Dr. Anna D. S. Abercrombie, examining physician of the Bureau of Labor and Statistics, Dr. Arthur P. Herring of the State Lunacy Commission and Mr. J. W. Chapman, Jr., president of the school board, have discussed the question of the best method to adopt to overcome the obstacles that now confront mentally deficient children.

MISSOURI

Social Service Department Opened.—The Barnard Free Skin and Cancer Hospital, St. Louis, has opened up a social service department with two social workers for the investigation of the social side of cancer.

State Board Election.—At a recent meeting of the Missouri State Board of Health, the following officers were elected: president, Dr. Wilson J. Ferguson, Sedalia; vice president, Dr. T. Hurley Wilcoxen, Bowling Green, and secretary, Dr. George H. Jones, Jefferson City. The other members of the board are Dr. Thomas A. Son, Bonne Terre; Dr. Marc R. Hughes, St. Louis; Dr. William A. Clark, Jefferson City, and Dr. Tolman W. Cotton, Van Buren.

Mount St. Rose Sanitarium Rebuilds.—Mount St. Rose Sanitarium, St. Louis, has recently added a new building at a cost of $140,000, the whole plant representing an investment of about $350,000. This institution is devoted exclusively to the care and treatment of tuberculosis, and is the first institution of its kind in the Middle West. It is conducted by the Sisters of St. Mary, and was established by them in 1902. Dr. Louis C. Boisliniere is the medical director.

Personal.—Dr. James E. Ball, Richmond, has been appointed a member of the medical staff of State Hospital No. 2, St. Joseph.——Dr. Elmer T. McGaugh, Richmond, has been appointed physician of Buchanan County, succeeding Dr. James E. Ball.——Dr. John W. Vaughan, St. Louis, was seriously injured in a collision between his automobile and a motor truck, October 24.——Dr. John D. Hayward, St. Louis, is reported to have won the suit brought against him by Mrs. Mary Sparks for $5,000 damages for injuries claimed to have been received by the breaking of an operating table. ——The Surgeon-General of the Army has appointed Major Llewellyn Sale, St. Louis, chief of the medical service for the special study of cardiovascular diseases at Camp Wadsworth, Spartanburg, S. C., and Major Oliver H. Campbell, St. Louis, chief of the medical service of the same study at Camp McArthur, Waco, Texas.——Dr. Porter E. Williams, Bunceton, has been elected superintendent of State Hospital No. 2 at St. Joseph to succeed Dr. Eugene H. Bullock, Edina, appointed land reclamation commissioner.——The death of Dr. James H. Elliott, West Plains, councilor of the Twenty-Seventh District, created a vacancy in that office which the president, Dr. Robert E. Schlueter, has filled by appointing Dr. Henry C. Shuttee, West Plains.——Dr. William A. Clark, Jefferson City, has been appointed penitentiary physician to take the place of Dr. James C. Welch, Salem, resigned.

Conditions of Rural Schools.—Missouri's rural schools show many serious deficiencies in health conditions, according to the report of a sanitary survey of the rural schools of northeast Missouri, which appears in the November issue of the *Rural School Messenger*. The report, which was undertaken by the Department of Chemistry and Sanitation at the State Normal School, especially emphasizes the state's crying need of laws to provide health inspection in the schools. Attention is called to the fact that 98.2 per cent. of the schools investigated have no medical inspection whatever. Only 3.5 per cent. have dental inspection, and only 1.7 per cent. make any effort to examine children for adenoids, although 491 cases were reported to the investigating committee. Provision for testing the eyesight of children is made by only 19.4 per cent., and for testing pupils for defective hearing, by 10.7 per cent. The report cites 311 cases of malnutrition and 646 cases of defects in speech, and although 173 pupils are suffering from spinal curvature and sixty from chorea, scarcely a third of the schools have made any provision for the health and comfort of the defective child. Seating arrangements that are a perpetual invitation to spinal curvature and other physical defects are common, as the great majority of the children are required to sit at desks that cannot be adjusted to their individual needs. Other conditions that militate against the health of the pupils in a large percentage of the schools are lack of disinfection of schoolrooms, polluted water supply, defective toilet arrangements, lack of modern heating and ventilating systems, and improper disposal of sewage. The committee recommends the passage of new health laws, the installation of school physicians, and more liberal support of the various public health agencies of the state.

NEW YORK

Centennial of Medical Society.—At the centennial meeting of the Steuben County Medical Society, held at Bath, October 17, Dr. Francis S. Swain, Corning, was elected president; Dr. Floyd L. Spaulding, Cohocton, vice president, and Dr. D. R. Wakeman, Cornell, secretary-treasurer.

Central Association Meets.—At the forty-ninth annual meeting of the Medical Association of Central New York, held in Auburn, October 18, the following officers were elected: president, Dr. John J. Buettner; vice presidents, Drs. Owen E. Jones, Rochester, and Nelson G. Russell, Buffalo; secretary, Dr. Robert Burns, Syracuse (reelected), and treasurer, Dr. Thomas F. Laurie, Auburn (reelected).

New York City

Harvey Society Lecture.—The second lecture in the Harvey Society series, delivered, November 10, at 8:30, by Dr. Carl L. Alsberg of the United States Department of Agriculture, was on the subject "Current Food Problems."

White Mice Wanted.—As the European war has cut off the supply of white mice, Dr. William H. Park, director of the department of health laboratories, has advertised for all who have white mice for sale to communicate with the research laboratory at the foot of East Sixteenth Street.

Microscopic Society Exhibition.—The exhibition of the New York Microscopic Society was held, November 13, at the National Museum of American History. The exhibition was devoted in a great measure to the demonstration of the department of health of the practical use of the microscope in safeguarding the public health. Demonstrations were also made showing the use of the microscope in the arts, sciences and industries.

Dr. Baruch Honored.—A bronze tablet commemorating Dr. Simon Baruch's connection with the campaign for public baths in this city was unveiled at the Simon Baruch Public Baths, formerly the Rivington Street baths, October 29. The tablet was donated by Mrs. Belle Baruch through the Association for the Promotion of Hygiene and Public Baths. Borough President Marcus M. Marks made the address of acceptance in behalf of the city.

Federal Control of Habit-Forming Drugs.—Police Commissioner Wood has written a letter to the attorney-general strongly urging the United States government to enact additional legislation, placing the sale of the these drugs directly in the hands of the federal government with zone districts for the distribution, and severe penalties for the alteration of certificates calling for drugs. Commissioner Woods states that there are 2,000 arrests of drug users in New York every year.

Is Tuberculosis Adequately Reported?—A recent bulletin of the department of health publishes the statistics pertaining to tuberculosis during the second quarter of 1917, and compares them with the figures for the corresponding period of 1916. The comparison shows a slight decrease in the death rate from pulmonary tuberculosis, and for other forms of the disease as well. There is a very marked decline in the number of new cases reported during the second quarter of 1917. It is pointed out that this would be a source of great satisfaction were there not sufficient evidence to account for the belief that this decrease is accounted for to a certain extent by the failure of many physicians to report cases of tuberculosis under their care to the health department. It

seems that it is still necessary to call the attention of physicians to the sanitary regulation requiring that all cases of tuberculosis be reported to the health department and the failure to do so is a violation of the sanitary code, that is, a misdemeanor which subjects the offender to criminal prosecution.

OREGON

Society Changes Name.—At the meeting of the Klamath County Medical Society, held at Klamath Falls, it was decided to change the name of the organization to the Klamath and Lake County Medical Society.

Personal.—Dr. D. Everette Standard and Susie V. Standard have taken up the practice at Huntington, vacated by the call to military service of Samuel C. Standard.——Dr. William F. Amos, Portland, is ill with otitis media.——Dr. Esther Pohl Lovejoy, Portland, who went to France last August in Red Cross service, is on duty in Paris.——Dr. Edmond J. Labbe, Portland, has started for France.

New Medical Building.—Plans are being made for the construction, at an early date, of the first unit of the new medical school of the University of Oregon. The sum of $117,000 is available for this work. This building and the new county hospital will occupy a site of 20 acres on one of the hills above South Portland. Eventually other buildings are to be erected, comprising all the necessary facilities for a great medical school.

PENNSYLVANIA

State Hospital for Inebriates.—Lewis J. Sadler, Carlisle, was elected president of the commission appointed by the governor to select a site and erect a state hospital for the treatment of inebriates, October 30. The legislature has appropriated $200,000 for this work.

Welfare and Efficiency Conference.—The fifth annual Pennsylvania Welfare and Efficiency Conference will be held in the House of Representatives, Harrisburg, November 21 and 22. These conferences are held annually for the purpose of stimulating discussions on the problems of industries and labor, with special reference to the reduction of the enormous number of diseases and deaths, and the numerous industrial accidents.

Conference of Industrial Physicians and Surgeons.—The Department of Labor and Industry announces that the fifth conference of industrial physicians and surgeons will be held at the state capitol, Harrisburg, November 20. At the morning session the medical and surgical problems of the staff of the largest industries representative of Pennsylvania will be considered, and in the afternoon the question of industrial diseases will be taken up.

War's Levy on the Hospital Interns in Pennsylvania.—Dr. John M. Baldy sends the following data regarding the approved general hospitals in Pennsylvania, and the effect of the war on the interns of these hospitals. According to Dr. Baldy there are seventy-two general hospitals approved for internship in Pennsylvania, and in these there are normally required 418 interns. The total number of interns at present is 327, leaving ninety-one vacancies, or nearly 22 per cent.

Personal.—Dr. Henry W. Linebaugh, New Cumberland, suffered a cerebral hemorrhage, October 22.——Dr. Josiah J. Myers, Nescopeck, fractured several ribs and dislocated a shoulder by a fall at the Berwick Planing Mill.——Dr. John A. McKean, Washington, sustained serious injuries by falling from a ladder, October 18.——Dr. Wallace R. Hunter, Erie, has been reappointed a trustee of the State Hospital for the Insane, Warren.——Dr. Thomas Lambie, for seven years a medical missionary in the Sudan, was appointed a minister of the United Presbyterian Church at a special meeting in Pittsburgh, recently.

Philadelphia

To Conserve Baby Lives.—The Philadelphia Pediatric Society will hold a public meeting, November 13, at the College of Physicians, to devise means for preventing and arousing interest in the infant mortality percentage of the country. Last year 5,200 babies died in Philadelphia before they reached their first birthday.

Moynihan in Philadelphia.—Sir Berkeley Moynihan, senior consulting surgeon of the British Royal Army, who arrived in this country from England a short time ago, was entertained at a dinner at the Bellevue-Stratford Hotel, by the Philadelphia Medical Club, the College of Physicians, the Academy of Surgery and the Philadelphia County Medical Society, November 7.

Infantile Paralysis.—The health department reports that 143 victims of the infantile paralysis epidemic of 1916, under its care, have been cured. This result was accomplished through the combined efforts of the city department with hospitals, dispensaries and private physicians, supplemented by the financial assistance of the Emergency Aid. Of those restored to health, eighty-four patients were treated by private physicians and thirty-eight at dispensaries. Hospitals have discharged four as cured; two other cured were treated in their own homes.

Base Hospital School Will Be Opened Here.—A fully organized school to train the enlisted men of a base hospital has been instituted at the Second Regiment Armory. The new school will be under the direction of Major John S. Lambie, Fort Bliss, Texas, commanding officer, and Major William M. L. Coplin, director of Base Hospital No. 38. The various hospitals of the city have agreed to offer facilities for the training. They will take 153 men, and detail them to duty in wards, dispensaries, operating rooms and laboratories. The men are divided into various units on duty at the Jefferson, Pennsylvania, Samaritan, Jewish, Lankenau, Frankford, Polyclinic and St. Joseph's hospitals. Others are to be detailed to hotels for kitchen work and to familiarize themselves with practical cooking. The first lecture was given, October 27, by Dr. William W. Keen.

TENNESSEE

Memorial Hospital in China.—H. Alexander, Nashville, will erect a hospital at Ping Tu, China, in memory of his wife. The institution will be known as the Luella Roach Alexander Hospital for Women.

New Building Dedicated.—A new building, the Anderson Anatomical Hall, at the Meharry Medical College of Nashville, was dedicated, October 19. It is the gift of Dr. John W. Anderson, Dallas, Texas, who contributed $10,000 for its erection.

Personal.—Dr. Charles S. Briggs has been appointed chief surgeon of the Tennessee Central Railroad, to fill the vacancy caused by the resignation of Dr. Lucius E. Burch, Nashville, who has entered the military service.——Dr. Roy Wells, Clarksville, has been placed in charge of the United Fruit Company's Hospital, Panama.

UTAH

Physicians' Club Organized.—The Physicians and Surgeons Club of Cache Valley was organized at Logan, October 19, with an initial membership of seven. Dr. Heber K. Merrill, Logan, was elected president; Dr. Ralph O. Porter, vice president, and Dr. Ernest P. Oldham, secretary-treasurer, all of Logan.

Health Association Meeting.—At the meeting of the Utah Public Health Association in Salt Lake City, October 4, the following physicians were elected members of the board of directors: Robert W. Ashley, Salt Lake City; Theodore B. Beatty, Salt Lake City; G. H. Brimhall, Provo; Clarence M. Clark, American Fork; R. Garn Clark, Panguitch; Ephraim G. Gowans, Salt Lake City; Robert S. Joyce, Ogden; Howard P. Kirtley, Salt Lake City; Horace G. Merrill, Provo; George W. Middleton, Green River; Edwin M. Nehner, Castlegate; E. G. Peterson, Logan; Joseph A. Phipps, Tooele; Charles C. R. Pugmire, Morgan; Matthew S. Reay, Randolph; Ezra C. Rich, Ogden; J. E. Talmage; J. A. Widtsoe, Salt Lake City, and C. A. Broadas, Delta.

WISCONSIN

Gifts to Medical School.—The medical library of the late John L. C. Cronyn, Buffalo, consisting of 1,000 volumes, has been donated to the library of Marquette University School of Medicine, Milwaukee, by the Cronyn family.

Anthrax in Milwaukee.—The first case of anthrax in human beings to be reported in Milwaukee was recently isolated by Health Commissioner Lewis J. Daniels in South View Hospital. The patient is a hide stripper in a tannery.

Women Elect Officers.—At the annual meeting of the Wisconsin Medical Women's Association, October 2, Dr. Irene Stemper, Oconomowoc, was elected president; Dr. Ada B. Chambler, Milwaukee, vice president, and Dr. Belle P. Nair, Winnebago, secretary-treasurer.

Sanatorium Almost Ready.—The first private charitable tuberculosis sanatorium in the state, founded by the Madison Anti-Tuberculosis Society, will be ready to receive patients by November 15. The sanatorium is located on a wooded

slope overlooking Lake Waubesa, and will accommodate at present thirty patients. The buildings were donated by Dr. Charles H. Vilas, Madison. Dr. Louis R. Head, Madison, is president of the association.

Chiropractic Treatment Not Acceptable.—The Wisconsin commission having in charge the enforcement of the workmen's compensation law has held that chiropractic treatment does not constitute "medical and surgical treatment." Sylvester Jones, Janesville, was injured last February while in the employ of Sanford Severhill, both parties being under the compensation. Severhill held compensation insurance with the Employees' Mutual Liability Insurance Company. For a time Jones was treated by a physician, but later of his own volition changed to a chiropractor. The decision of the commission is that Jones is not ehtitled to reimbursement for the chiropractor's charges under the terms of the compensation law, which requires the employer to furnish "medical and surgical treatment."

CANADA

Deserved Promotion.—Col. Henry R. Casgrain, Windsor, who recruited Canadian Station Hospital No. 3, has been promoted to senior officer of Hospital No. 8, which is now in France. Colonel Casgrain, who had been invalided home, has left for France to assume his new duties.

Medical Board at Work.—The traveling medical board, consisting of Dr. Clarence H. Brown, Ottawa, and Dr. Stock, Toronto, and Dr. James H. McGarry, Niagara Falls, to examine all men eligible for the first draft under the military service act, commenced work at Niagara Falls, October 12, and will continue until all widowers and married men without children have been examined.

GENERAL

Soo Line Physicians Elect Officers.—At the annual meeting of the Minneapolis, St. Paul and Sault Ste. Marie Railway Surgical Association, held in Chicago, October 22 and 23, under the presidency of Dr. John M. Dodson, Chicago, the following officers were elected: president, Dr. George M. Steele, Oshkosh, Wis.; vice president, Dr. David C. Pierpont, Ironwood, Mich., and secretary-treasurer, Dr. John H. Rishmiller, Minneapolis (reelected). Minneapolis was selected as the next place of meeting.

Warning.—A warning has been received from Milwaukee regarding a young man who calls himself Joseph C. Grimble, who gives a history of military experience in France and Belgium, where he says he was seriously wounded and was under the care of Dr. Alexis Carrel. He has scars on the hip and scrotum, has some shortening of the right leg, is about 5 feet, 5 inches in height, 127 pounds in weight, and fair complexion. It is reported that he is an impostor, and is attempting to obtain money under false pretenses.

Formulation of Milk Ordinance.—To assist communities in making their milk supply safe, the United States Department of Agriculture has issued a "Guide for Formulating a Milk Ordinance." This document, *Department Bulletin 585*, suggests a form of ordinance designed to protect the community against fraud and disease, and to insure cleanliness in the production and handling of milk. Health officers and physicians interested in improving milk supplies may obtain copies of this bulletin free, on application to the department.

Campaign of Washington State Medical Association Against Venereal Diseases.—The Committee on Venereal Prophylaxis of the Washington State Medical Association is furnishing to the soldiers and sailors of that state a printed slip on the subject of venereal diseases. Prophylactic stations have been established at the Municipal Dock, Tacoma, and in the Joshua Green Building, Seattle. These stations are manned by an army personnel. The committee is assisted by furnished rooms and equipment, and the circulars which the military authorities aid in distributing.

Personal.—Dr. Augustine M. Fernandez-Yberra, for the last eight years a practitioner of Havana, sailed for Europe, October 29, as traveling correspondent for England, Switzerland, Italy and Spain, for the Havana journal *El Dia*.——Lieut. Percy G. Hamlin, M. R. C., U. S. Army, Richmond, Va., who was on duty with the British troops on the western front, was wounded, October 5.——Lieut. Archibald F. Graham, M. R. C., U. S. Army, Paterson, N. J., on duty with the British forces, has been seriously wounded in the thighs.——Lieut. Clement A. Fogerty, M. R. C., U. S. Army, Philadelphia, who went to England early in August, has been made assistant surgeon in the Southwark Hospital, London.

PARIS LETTER

PARIS, Oct. 11, 1917.

The War

THE CABINET OFFICIAL IN CHARGE OF THE ARMY MEDICAL DEPARTMENT

A decree recently appeared in the *Journal Officiel* setting forth the powers of the undersecretary of state for the Service de santé militaire. They are as follows: Article 1. The undersecretary of state has charge of the Service de santé, and directs the activities of this service by and for the state war department. Propositions of every nature concerning the personnel of this service are discussed and prepared in concrete form by him before they are presented to the minister for his consideration. Article 2. The undersecretary of state has, within the limits of his powers, the right to use the ministerial signature. He will likewise correspond directly with the commander-in-chief and the regional commander-in-chief.

Donations from the American Red Cross to the City of Paris

The president of the municipal council of Paris received from Mr. Beatty, director-general of the American Red Cross, 266,667 francs ($53,333.40) to be divided, with the cooperation of the prefect of the department of the Seine, among the families of the Parisian officers and soldiers who have seen the longest service. The president of the General Council of the department of the Seine received 133,333 francs ($26,666.60) to be distributed under the same conditions to the families residing within the confines of that district outside of Paris.

Donations from the American Automobile Club

The American Automobile Club has sent to the Automobile Club of France 23,140 francs ($4,628) to be given to the Association of French Women (one of the three societies of the Red Cross) for the purpose of purchasing automobile ambulances.

Death of Dr. Alphonse Boissard

We are advised of the death of Dr. Alphonse Boissard, aged 65, honorary obstetrician to the hospitals of Paris. In 1883, he presented to the Faculté de médecine de Paris a thesis which was a classic on the pelvis and perineum from the obstetric point of view. He was chief of the clinic of Pinard, and in 1891 he received the title of accoucheur of the hospitals of Paris. With Budin he held the chair of adjunct professor of the maternity during 1896 and 1897, and in 1898 he was made accoucheur. Among the subjects that occupied his attention must be mentioned, first, provoked or produced abortion. He also gave much thought to evacuation of the uterus in cases of retained dead fetus, and made interesting researches on the bladder troubles of the parturient. He was president of the Obstetrical Society of Paris, of which he was one of the founders.

LONDON LETTER

LONDON, Oct. 16, 1917.

The War

THE WAR MUSEUM AT THE COLLEGE OF SURGEONS

At the Royal College of Surgeons, Sir Alfred Keogh, director-general of the army medical service, opened an exhibition of specimens of military injuries. This has been arranged by the college staff under the supervision of Arthur Keith, and is temporarily housed in the college museum. At the same time Sir George Makins, president of the college, conferred the diploma of honorary fellowship on Sir Alfred Keogh in the presence of a large gathering of the heads of the army and navy medical services and representatives of the medical services of France, Serbia, the United States, and our overseas dominions. The president paid a high tribute to Sir Alfred Keogh's brilliant career and great administrative ability. In replying, Sir Alfred said that John Hunter would have gloried to see that day, for the exhibition was indeed the vindication of his life work. It included specimens sent in by the medical services of the armies of the oversea dominions as well as by the Royal Army Medical Corps, and it was hoped that eventually these would go to the dominions to form the nuclei of pathologic museums there. It was also hoped that out of the superabundance of materials that this war would supply, local museums would be created in some of the military hospitals.

As early as the third month of the war, an army medical committee was constituted to compile the medical history,

One of the aims was to collect from casualty clearing stations and military hospitals examples of the wounds and diseases suffered by soldiers; to dissect and examine such specimens in order fully to understand their extent and nature so that the best treatment might be adopted, and to preserve instructive examples so that they might be examined and studied by army surgeons not only of today but for many generations to come. In the earlier phases of the war, when every endeavor had to be concentrated on the immediate medical needs of the army, the depleted staff of the army medical college in London was not in a position to undertake the formation of such a collection. Hence in May, 1915, Dr. Morley Flatcher, secretary of the Medical History Committee, asked the assistance of the council of the Royal College of Surgeons. The council at once placed its museum staff and workrooms at the disposal of the army council. Circular memoranda were issued to medical officers, detailing the aims of the committee and the methods to be observed in the selection, preservation and dispatch of specimens. The museum staff of the Royal College of Surgeons had been depleted by the needs of the war, and hence its efforts were necessarily confined to storing, preserving and indexing the specimens as they arrived, and in keeping a record of the clinical histories. The original intention was to postpone the examination, study and exhibition of specimens until the end of the war, when a body of experts could be appointed for this purpose. But it was urged by Sir Arthur Sloggett, the director-general of medical services in France, that the collection possessed an immediate educative value and that every effort should be made to realize that value for the benefit of medical officers. The council of the Royal College of Surgeons was again approached by the War Office with this object in view. Arrangements were made to proceed with the preparation of specimens for exhibition. Materials for their preservation and exhibition were supplied by the War Office. Mr. S. G. Shattock, F.R.S., pathologic curator to the college, and Mr. Cecil Beadels, assistant curator, undertook the dissection, examination and exhibition of wounds as they affect the various systems of the body—bones, muscle, joints, blood vessels, deeply seated organs, etc. The conservator of the museum, Arthur Keith, assumed responsibility for the description and arrangement of macerated specimens illustrating the lesions inflicted by modern missiles, as far as bones and joints are concerned.

While the actual dissections and preparations of wounds make up the major part of the exhibition, there are many important subsidiary sections. There are series of drawings made at the bedside to record appearances which cannot be preserved or perpetuated in any other way. Col. F. M. Caird has contributed a series of realistic drawings of trench foot, results of guillotine amputations, and other clinical conditions. A section is devoted to means employed to protect soldiers from injury—helmets, breastplates, respirators and gas masks. From the Queen's Hospital, Sidcup, where plastic operations for the alleviation of face deformities are undertaken, there are sketches, models and casts showing how successfully the most ghastly mutilations of the face are treated. The military orthopedic hospital at Shepherd's Bush is represented by casts and drawings of deformed limbs before and after operation. There is a remarkable series of models, casts and photographs showing war wounds of the jaw, the means adopted for their treatment, and the results. From the commencement of this enterprise an imperial view of its possibilities has been taken. The aim has been not only to build up a "central" or "national" collection, but also to encourage the Canadian, Australian and New Zealand army medical services to share in a common endeavor. Such specimens as are sent by these services are ear-marked for special collections to be set up in those countries. In every case, when the Medical History Committee does not desire to retain a specimen for the "national" collection, the sender has the right to have such specimens forwarded to the medical museum of his university or hospital. There are also on exhibition for the purposes of comparison the sparse records that have come down to us from former wars.

Surveying these collections, one ardently wishes that military surgeons of former campaigns had taken some pains to preserve the conditions they were called on to face. It is hard for a surgeon to realize that the conditions he is only too familiar with in the heat of a campaign are unknown to those who do not share his labors. In our former wars we have been too apt to attend to the medical exigencies of the campaign, and when it closed to bury the experience instead of consolidating it for the use of a future generation.

Besides its direct utility to army medical officers, the collection serves other useful purposes. There are certain conditions which must appear but rarely in the experience of the individual surgeon, and are yet not uncommon when experiences are pooled at a central depot. Almost at the commencement of the war a heart was received from which a surgeon successfully removed a bullet when the soldier was alive, and no wound of entrance to the heart was perceived at the time of operation or afterward. Soon two similar examples of fragments of metal in the heart were received, which may now be seen on exhibition. It was then inferred that such foreign bodies must first enter a large vein and be subsequently swept on to the heart in the circulation. Further experience has shown that such is their origin; cases in which foreign bodies, such as bullets and fragments of shell, have been swept into the heart are by no means rare. Quite early in the war, three examples of fracture of the neck were received. All three were caused in the same way: the soldier had dived into shallow water and his head had struck the bottom. Examination of the specimens showed that in most cases the lives of such soldiers could be saved by the prompt adoption of certain means, and that death will certainly be produced by improper handling. Many more instances could be cited in support of the immediate utility of the collection.

The collection is stored in three rooms which were devoted to the exhibition of anatomic and pathologic preparations, many of them the work of John Hunter, and most of them mounted in glass jars filled with inflammable spirit. At the outbreak of war they had to be placed in cellars for safety, for the authorities well knew that the people who trained their guns on the invaluable collections of the Natural History Museum of Paris in the spring of 1871 would not respect any British collection, no matter what its scientific value or humanitarian worth. There is a section labeled "Means of Protection." It includes metal helmets, breastplates, masks, respirators and other inventions that are being employed for the protection of soldiers. Several helmets are shown bearing evidence that the head of the wearer has been saved from a wound which otherwise would have proved mortal. With these helmets are shown a series of calvaria, perforated, with fatal results, by missiles that could have been turned aside by protective helmets. The gas masks for the protection of the lungs are of various patterns and dates. On one table are shown wounds of the vault of the skull. This series begins with examples of extensive destruction—injuries caused by large fragments of shell or by bullets of high velocity—giving rise to an "explosive" effect, a shattering of the whole skull. Then follow examples of minor wounds of the forehead and frontal bone, showing many forms and many stages of healing. On this and on the next table are to be seen many examples of wounds caused by missiles that have passed through the skull from side to side. On the other hand, "gutter" wounds, caused by a bullet or missile merely plowing the surface of the skull, are scarcely represented. There are two specimens in which a blow has caused a fracture of the inner plate of bone, and yet the corresponding outer plate remains intact. Numerous examples illustrate the fact that the injury to the external plate of the skull is no index to the extent of injury to the internal plate. A table is devoted to specimens illustrating the wounds and injuries of the face and jaws. In some cases of fractured jaw the dental splints that have been used to keep fragments in position are still attached to the specimens. Injuries to the spinal column are displayed in infinite variety. In one remarkable specimen a bullet has entered and passed along the spinal canal in the dorsal region, shattering the laminae as it passed. The bodies of the vertebrae are fissured on the median plane, showing the rending or "explosive" effect of a bullet of high velocity. A study of the specimens of fractured thigh bones shows that there are several types of fracture produced by missiles, but the prevailing type is that described by the term "butterfly" or X-shaped type. There is a tendency for a bullet to break the part off the bone into two main fragments resembling the two wings of a butterfly. In most cases the articulator has restored these fragments to their proper place in the whole bone, thus giving a somewhat misleading idea, except to the expert, of the disorder produced by a bullet wound of a bone. Most bones struck by projectiles show fine fissures far beyond the point of impact. Injury of bone produces a much more extensive rupture and exposure of torn surface than a mere casual examination reveals. Injuries of the knee, injuries of the leg, the condition of "stumps" removed by secondary amputation, injuries to the ankle and foot are represented in a consecutive manner. In one remarkable instance the lower end of the broken tibia has become united to the upper end of the broken fibula.

In Room 2 the peculiar characters of the wounds encountered in modern warfare may be studied in their immediate and their remote effects. Such examples as are available from former wars are set out—chiefly dried or bone preparations; also examples of gunshot wounds culled from civil practice. The Napoleonic wars are represented; there are specimens from soldiers who fought with Sir John Moore in his retreat to Corunna; there are a few examples from Waterloo. On the other hand, examples of the wounds and injuries of the Crimean War are more plentiful; there is quite a good series from the Austro-Prussian and Franco-Prussian wars, those from the latter war having been collected by a former president of the college, Sir William MacCormac. In those wars we see the same type of bone injury, the same septic inflammatory sequelae, as may have been noted in the specimens of the present war. The wounds produced by shrapnel and by shell fragments are of the same nature now as in former wars; the septic sequelae are also the same. It is not, however, until we come to the examples obtained from the Soudanese campaign of 1898 that we recognize the results produced by missiles of high velocity—the shattering, expansive, "explosive" effects. Passing to modern military wounds, wounds of entrance, wounds of exit, wounds at various stages of healing, and sepsis are shown. There are specimens of "excised wounds" of patients from whom the surgeon has sought to remove the injured and infected tissues as soon as possible after the date of infliction. Then commences a series illustrating injuries to the chest, pleura and lungs, with various sequelae that may ensue. There follow wounds of the structures on the posterior mediastinum (esophagus and aorta), then of the diaphragm, and finally of the heart. There is one remarkable injury of the heart; the anterior wall of the right ventricle is extensively lacerated—yet the officer (a member of the Flying Corps) brought his machine safely to earth! The vascular injuries so common in this war are very completely represented. One preparation is particularly worthy of study—a dissection of the popliteal space pierced by a bullet of high velocity. The damage extends far beyond the immediate track of the missile.

In drawings, Sergeant A. K. Maxwell most accurately delineates war wounds. He has succeeded in rendering a permanent and faithful record of conditions which could not be recorded except by pen and brush. His rendering of the appearance of muscles at various stages of invasion by the bacillus that produces gas gangrene are particularly worthy of attention. One stand shows specimens which could not be obtained in any former war—the lungs of men who suffered in the first cloud of poisonous gas sent over our lines by the enemy early in 1915 at Ypres. The effects may be studied at all stages, and the effect on the whole respiratory system. On the same stand are shown the changes that become apparent in the kidney in cases of trench nephritis. Here, too are represented the conditions, organic disturbances and disorganization produced by the gas-producing organism. It need not be said that the museum should be visited by every American surgeon who comes to London.

Marriages

CAPT. CHARLES BARTON, M. R. C., U. S. Army, Camp Zachary Taylor, Louisville, Ky., to Miss Henrietta Kiesow of Detroit, at the Durrett Place, near Camp Taylor, October 21.

LIEUT. JAMES ALFRED GOULD, M. R. C., U. S. Army, Westboro, Mass., to Miss Mary MacLean of Taunton, Mass., in Providence, R. I., September 11.

LOUIS FLEMING FALLON, M.D., St. John's, Newfoundland, to Miss Anna Hilder Elizabeth Bjork of Perth Amboy, N. J., at St. John's, October 2.

WALTER ULYSSES MEIER, M.D., Haskill, N. J., to Miss Anna Margaret Metzger of Williamsport, Pa., October 18.

CAPT. JOHN FRANCIS MCCLOSKEY, M. R. C., U. S. Army, to Miss Pauline J. Grotz, both of Philadelphia, October 15.

LIEUT. FRANK J. STODDEN, M. R. C., U. S. Army, Wayne, Neb., to Miss Veronica Bradley of Omaha.

WILLIAM MARKUS, M.D., to Miss Leona Freedman, both of Cleveland, October 16.

WINTHROP WARREN BUTTMAN, M.D., to Miss Beatrice Lambeth, both of Denver, October 17.

EDWARD COLLINS OESTERREICHER, M.D., to Miss Elda Mary Schmehl, both of Bethlehem, Pa., October 20.

Deaths

Silas Dean Presbrey, M.D., Taunton, Mass.; Harvard Medical School, 1865; aged 79; a Fellow of the American Medical Association; one of the founders of Morton Hospital, Taunton; first city physician of Taunton; president of the Bristol North District Medical Society in 1869-1870; one of the founders and once president of the Massachusetts Medico-Legal Society; once vice president of the American Academy of Medicine; for many years a member of the board of education, and a member of the board of trustees of the Bristol Academy, and medical examiner (coroner) for the north district of Bristol County; since 1881 a member of the board of water commissioners of Taunton; died at his home, October 23.

Charles Cummins Hunt, M.D., Seattle; formerly of Dixon, Ill.; Bellevue Hospital Medical College, 1865; aged 77; formerly a Fellow of the American Medical Association; a member, and in 1891 president of the Illinois State Medical Society; for forty-seven years a practitioner of Dixon; assistant surgeon of the One Hundred Sixty-Ninth and the One Hundred Thirty-Seventh Ohio Volunteer Infantry during the Civil War; one of the organizers of the Dixon Hospital; died at his home in Seattle, September 9, from cerebral hemorrhage.

Lieut.-Col. Henry Allers, M. C., N. G., N. J., Harrison, N. J.; New York University, New York City, 1881; aged 61; formerly a Fellow of the American Medical Association; a member of the Medical Society of New Jersey and first vice president of the Association of Military Surgeons of the United States; formerly major and surgeon of the First New Jersey Infantry; deputy physician of Hudson County, N. J.; a member of the Board of Health of Harrison; who had been ill for a long while, died recently at his home.

Archibald G. Thomson, M.D., Philadelphia; University of Pennsylvania, Philadelphia, 1892; aged 48; formerly a Fellow of the American Medical Association; a member of the American Laryngological Association; well known as an ophthalmologist; a member of the staff of University, Wills, and the Orthopedic Hospital; died in the private hospital of Dr. Francis X. Dercum, Philadelphia, October 22, from heart disease.

James F. Blackwelder, M.D., Litchfield, Ill.; Cincinnati College of Medicine and Surgery, 1864; aged 76; formerly a Fellow of the American Medical Association; an honorary member of the Montgomery County Medical Society; acting assistant surgeon in the Army throughout the Civil War; formerly a member of the city council of Litchfield; died at his home, October 9, from diabetes.

Byron C. Stolp, M.D., Wilmette, Ill.; Bennett Medical College, Chicago, 1873; aged 66; a Fellow of the American Medical Association; a pioneer resident of Wilmette, and a well-known physician of the north shore; a member of the medical staff of the Evanston Hospital since its foundation; who was run down by an automobile, October 30, in Wilmette, died from his injuries, November 2.

Lieut. James Brown Griswold, M. R. C., U. S. Army, Morristown, N. J.; Dartmouth Medical School, Hanover, N. H., 1893; aged 46; chief sanitary officer of Camp Dix, Wrightstown, N. J.; a member of the staff of Memorial Hospital, Morristown; and gynecologist to Roosevelt Hospital; died at his home, October 25, from pneumonia.

Thomas Edward Deveny, M.D., Watervliet, N. Y.; Albany, N. Y., Medical College, 1901; formerly a member of the Medical Society of the State of New York; for several years police surgeon of Watervliet; who was thrown from his automobile on the Albany road, October 21; died in St. Peter's Hospital, Albany, from his injuries, October 24.

Henry Everett Sutton, M.D., St. Cloud, Minn.; University of Minnesota, College of Homeopathic Medicine and Surgery, Minneapolis, 1901; aged 41; a member of the Minnesota State Medical Association; a lieutenant in the Minnesota National Guard during the Spanish-American War; died at his home, October 22.

William Francis Gutherson, M.D., Paterson, N. J.; College of Physicians and Surgeons in the City of New York, 1904; aged 39; a member of the Medical Society of New Jersey and New York Pathological Society; a member of the staff of St. Joseph's Hospital, Paterson; died at his home, October 22, from pneumonia.

Thomas Scilles Kennedy, M.D., New Orleans; Tulane University, New Orleans, 1869; professor of pediatrics in the New Orleans Polyclinic; for fifteen years in charge of the Children's Clinic of the Charity Hospital, New Orleans; a Confederate veteran; died at his home about October 20.

James Benjamin Livingston, M.D., West Middlesex, Pa.; Western Reserve University, Cleveland, 1866; aged 87; formerly a Fellow of the American Medical Association; a member of the Medical Society of the State of Pennsylvania; died at his home, October 18, from senile debility.

Thomas Joseph Henry McCormick, M.D., Boston, Mass.; Harvard Medical School, 1900; aged 40; formerly a Fellow of the American Medical Association; a member of the Massachusetts Medical Society; died at his home in Roxbury, Boston, October 10, from heart disease.

Joseph J. Knapp, M.D., Youngsville, Pa.; College of Physicians and Surgeons, Baltimore, 1891; aged 63; a member of the Medical Society of the State of Pennsylvania; a director and vice president of the First National Bank of Youngsville; died at his home, October 19.

John Quincy Adams, M.D., Amesbury, Mass.; Bellevue Hospital Medical College, 1872; aged 67; a member of the Massachusetts Medical Society; a prominent socialist and once candidate for governor on that ticket; died at his home, October 19.

John L. Schoolcraft, M.D., Schenectady, N. Y.; Albany, N. Y., Medical College, 1869; aged 64; a Fellow of the American Medical Association; health officer of Schenectady in 1914-1915; died at his home, October 23, from cerebral hemorrhage.

Owen W. Grubbs, M.D., Harrison, Ohio; Medical College of Ohio, Cincinnati, 1888; aged 57; died at his home, October 23, from the effects of a gunshot wound of the heart, believed to have been accidentally self-inflicted while cleaning his shotgun.

Howard Chew Garrison, M.D., Kansas, N. J.; Hahnemann Medical College, Philadelphia, 1894; aged 53; a member of the staff of the West Jersey Homeopathic Hospital, Camden; died in a hotel in Atlantic City, October 23, from nephritis.

John H. Wood, M.D., Champaign, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1878; aged 74; a veteran of the Civil War; formerly mayor of Deland, Ill.; died at his home in Champaign, October 18, from malignant disease.

George N. Carnachan, M.D., Bruce, Wis.; Louisville, Ky., Medical College, 1878; aged 60; a Fellow of the American Medical Association; died in the Sacred Heart Hospital, Eau Claire, Wis., October 25, after a surgical operation.

Pitt Harold Jones, M.D., Springfield, Maine; New York University, New York, 1884; aged 55; for two terms a member of the house of representatives of Maine; town treasurer of Springfield; died in his automobile, October 14.

Harry Valentine Sanns, M.D., Le Sage, W. Va.; Medical College of Ohio, Cincinnati, 1880; aged 57; a member of the West Virginia State Medical Association; died in Rochester, Minn., August 16, from carcinoma of the colon.

David McIntyre, M.D., Boston; New York University, New York, 1886; aged 59; a Fellow of the American Medical Association; a well-known obstetrician of South Boston; died at his home, September 2, from diabetes.

Edwin Dorset Newton, M.D., Atlanta, Ga.; Jefferson Medical College, 1869; aged 82; surgeon in the Confederate service during the Civil War; died at the home of his sister in Athens, Ga., October 19, from pneumonia.

Elbridge A. Shay, M.D., St. Louis, Mo.; Cleveland University of Medicine and Surgery, 1883; aged 68; professor of anesthesia in the St. Louis College of Physicians and Surgeons; died at his home, October 20.

Mary Darrach, M.D., New York; New York Medical College and Hospital for Women, 1904; founder of the Darrach Home for Crippled Children, New York; died in Atlantic City, October 18, from pneumonia.

William Lewis Tallman, M.D., Chicago; Bellevue Hospital Medical College, 1881; aged 58; died at his home, October 27, from cerebral hemorrhage.

G. H. Clemens Richard, M.D., Cincinnati; Eclectic Medical Institute, Cincinnati, 1856; aged 89; died at his home, October 13.

John Carder Champlin, M.D., Block Island, R. I.; Boston University, 1885; aged 57; died at his home, in August, from nephritis.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

"PATENT MEDICINES" IN CANADA AND THE UNITED STATES

A Comparison of Therapeutic Claims Made in the Two Countries

A little more than five years ago an article was published in this department comparing the labels on certain "patent medicines" that were sold, respectively, in the British Isles and in the United States. It was shown that the federal Food and Drugs Act in this country had increased alike the protection of the purchaser and the veracity of the seller. The present article aims to draw a similar parallel between the claims made for certain "patent medicines" in the United States and in the Dominion of Canada.

The national law in the United States governing interstate commerce in "patent medicine" guards the public by means of two prohibitions that may be briefly expressed in their essentials as follows: It prohibits "false or misleading" statements regarding the composition or source of origin of any

DODD'S KIDNEY PILLS IN CANADA

A POSITIVE CURE FOR ALL KIDNEY DISEASES.

CURES - BACKACHE	CURES - RHEUMATISM	PURIFIES THE BLOOD
HEADACHE	BRIGHT'S DISEASE	CLEANSES THE SYSTEM
INDIGESTION	DIABETES	CURES - FEMALE WEAKNESS

DODD'S KIDNEY PILLS IN THE UNITED STATES

A TREATMENT FOR KIDNEY DISEASES.

FOR - BACKACHE	FOR - RHEUMATISM	FOR - FEMALE WEAKNESS
HEADACHE	URINARY AND	PURIFYING THE BLOOD
INDIGESTION	BLADDER TROUBLE	CLEANSING THE SYSTEM

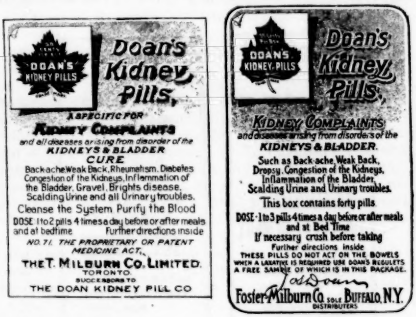
drug product; it prohibits, also, "false and fraudulent" claims for therapeutic effects. The law governing the sale of "patent medicines" in Canada prescribes certain regulations for labeling, and specifically prohibits the use of cocain in any "patent medicine." It does not, however, offer any protection to the Canadian public against false, misleading or fraudulent claims that may be made for products of this class.

What follows is not to be construed in any sense as a criticism of the Canadian law; the object of the comparisons made is to show that so far as curative claims for "patent medicines" are concerned, Canada is in the same position that the United States was before the passage of the federal Food and Drugs Act, June 30, 1906. Manufacturers of "patent medicines" who wish to sell their preparations in Canada are under no legal restrictions as to the claims they may make for them. In the United States therapeutic claims—made on the trade package—must be kept within certain limits. If false and fraudulent claims are made the manufacturer lays himself open to prosecution under the federal law. If, then, we find that certain claims are made for a "patent medicine" sold in Canada that are not made for the same product sold in the United States, we are justified in inferring that such claims are in the prohibited list, that is, they are false, misleading or fraudulent.

Within the last few weeks we have had purchased on the open market in Canada certain "patent medicines" that are sold also in the United States. We purpose comparing the claims made on the Canadian trade packages with the claims made for the same products sold south of the international boundary.

DODD'S KIDNEY PILLS

"Dodd's Kidney Pills" were analyzed a few years ago by the chemists of the British Medical Association, who reported that the principal ingredient was potassium nitrate. Other constituents found were baking soda, soap, hard paraffin, wheat flour, powdered turmeric and minute quantities of resins and plant extractives. Practically the same findings were reported by the state chemists of North Dakota in their 1915 *Bulletin*. These pills are sold in Canada under claims


DOAN'S KIDNEY PILLS
Doan's Kidney Pills,
A SPECIFIC FOR
KIDNEY COMPLAINTS
and all diseases arising from disorder of the
KIDNEYS & BLADDER
CURE
Backache Weak Back, Rheumatism, Diabetes
Congestion of the Kidneys, Inflammation of
the Bladder, Gravel, Brights disease,
Scalding Urine and all Urinary troubles.
Cleanse the System Purify the Blood
DOSE 1 to 2 pills 4 times a day before or after meals
and at bedtime Further directions inside
NO 71 THE PROPRIETARY OR PATENT
MEDICINE ACT,
THE T. MILBURN CO. LIMITED.
TORONTO
SUCCESSORS TO
THE DOAN KIDNEY PILL CO
DOAN'S KIDNEY PILLS
Doan's Kidney Pills,
KIDNEY COMPLAINTS
and diseases arising from disorders of the
KIDNEYS & BLADDER
Such as Backache, Weak Back,
Dropsy, Congestion of the Kidneys,
Inflammation of the Bladder,
Scalding Urine and Urinary troubles.
This box contains forty pills
DOSE-1 to 3 pills 4 times a day before or after meals
and at Bed Time
If necessary crush before taking
Further directions inside
THESE PILLS DO NOT ACT ON THE BOWELS
WHEN A LAXATIVE IS REQUIRED USE DOAN'S REGULETS.
A FREE SAMPLE OF WHICH IS IN THIS PACKAGE.
Foster-Milburn Co. sole BUFFALO, N.Y.
DISTRIBUTERS

CANADA UNITED STATES

Photographic reproduction (reduced) of the labels of "Doan's Kidney Pills" as sold in Canada and the United States, respectively. It is worthy of note that while in Canada (where the law does not prohibit lying on the label) Doan's Kidney Pills are sold as a "cure" for Bright's disease and diabetes, in selling their pills in the United States the manufacturers specifically state that the pills "are not recommended for Bright's disease or diabetes."

which, if made in the United States, would undoubtedly subject the manufacturers to prosecution on the charge of making false and fraudulent statements regarding the therapeutic value of their product. Compare:

CANADA	UNITED STATES
"A Positive Cure for all Kidney Diseases—Cures—Backache, Headache, Indigestion. Cures—Rheumatism, Bright's Disease, Diabetes. Purifies the Blood Cleanses the System. Cures — Female Weakness."	"A Treatment for Kidney Diseases — For — Backache, Headache, Indigestion. For—Rheumatism, Urinary and Bladder Trouble. For—Female Weakness, Purifying the Blood, Cleansing the System."
"Bright's Disease— . . . Dodd's Kidney Pills is the only remedy that has cured Bright's disease."	*"Bright's Disease—"* (Statement omitted — no claim made that Dodd's Pills are of any value in this disease).
"Diabetes— . . . Dodd's Kidney Pills will cure this disease."	(No reference whatever to diabetes.)
". . . Dodd's Kidney Pills will cure any form of heart disease."	(No reference whatever to heart disease.)
". . . are the only cure for kidney disease."	(No such statement anywhere.)
". . . the best kidney remedy obtainable."	(No such statement anywhere.)

Every one must admit that the claims made for the therapeutic action of Dodd's Kidney Pills in the Canadian package are stronger and better "business pullers" and "selling copy" than the much more conservative claims made in this country. Now, if Dodd's Kidney Pills are "a Positive Cure for all Kidney Diseases"; if they really are "the only remedy that has cured Bright's disease"; if they will "cure diabetes" and "cure any form of heart disease," and are, in fact, "the only cure for kidney disease," why does not the manufacturer of these pills so state on the trade packages sold in the United States? There is no law against telling the truth.

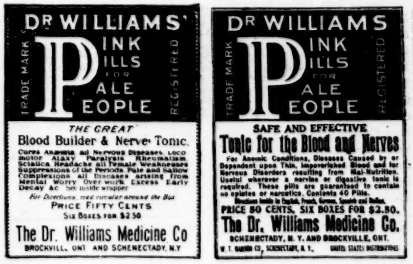
DOAN'S KIDNEY PILLS

"Doan's Kidney Pills" also have been analyzed by the chemists of the British Medical Association, who reported finding oil of juniper, hemlock pitch and powdered fenugreek, as well as potassium nitrate—the latter, in spite of the claim made in the British Isles (and also in Canada), that these pills were "purely vegetable." The state chemists of Connecticut also have analyzed these pills and reported that their active ingredients appear to be potassium nitrate, pitch and possibly a trace of oil of juniper and other unidentified organic drugs. In Canada Doan's Pills are "a specific for kidney complaints," but in the United States the manufacturer more conservatively—or cautiously—mentions merely that they are "for kidney complaints." Again comparing:

CANADA	UNITED STATES
"Doan's Kidney Pills, A Specific for Kidney Complaints and all diseases arising from disorder of the Kidneys & Bladder Cure Backache, Weak Back, Rheumatism, Diabetes, Congestion of the Kidneys, Inflammation of the Bladder, Gravel, Bright's disease, Scalding Urine and all Urinary troubles, Cleanse the System, Purify the Blood."	"Doan's Kidney Pills for Kidney Complaints and diseases arising from disorders of the Kidneys & Bladder, such as Back-ache, Weak Back, Dropsy, Congestion of the Kidneys, Inflammation of the Bladder, Scalding Urine and Urinary troubles."
"These Pills are composed of rare and valuable medicinal agents. . ."	(No such claim made.)
". . . will absolutely cure backache, all forms of Kidney Disease, Diabetes, Bright's Disease, etc."	". . . are not recommended for Bright's disease or diabetes."
". . . a purely vegetable medicine. . ."	(No such claim made.)

Every physician and many an intelligent layman knows that neither Doan's Kidney Pills nor any other drug "will absolutely cure . . . all forms of kidney disease, diabetes, Bright's disease, etc." This statement is a preposterous falsehood on its face, but the manufacturers of Doan's Kidney Pills have made it where there is no legal restriction on lying, although in the United States they emphasize specifically that their pills "are not recommended for Bright's disease or diabetes" and add: "Both these are serious disorders and the patient should be under the supervision and instruction of a competent physician."

If Doan's Kidney Pills really contain "rare and valuable medicinal agents," as is claimed in the Canadian trade package, there is no law in the United States that would prohibit



CANADA UNITED STATES

Photographic reproduction (reduced) of the labels of "Williams' Pink Pills" as sold in Canada and the United States, respectively. Notice that the Canadian public is told that these pills will "cure" all nervous diseases, locomotor ataxia, paralysis, female weaknesses, etc. The same pills when sold in the United States are not invested with such marvelous powers.

the manufacturer from saying so. There is, however, a law that specifically prohibits false or misleading statements regarding the composition of drug products. In view of the fact that the claim of "rare and valuable medicinal agents" is omitted from the trade package in the United States, the inference is fairly obvious.

WILLIAMS' PINK PILLS FOR PALE PEOPLE

"Dr. Williams' Pink Pills for Pale People" are a much over-advertised proprietary modification of the common Blaud's pill. The manufacturers have been found guilty in the United States courts of making false and fraudulent claims for their product in reckless and wanton disregard of their truth or falsity for the purpose of defrauding purchasers. Let us compare the claims made today for Pink Pills in the United States with those made for the same product in Canada:

CANADA	UNITED STATES
"Cures Anemia, all Nervous Diseases, Locomotor Ataxia, Paralysis, Rheumatism, Sciatica, Headache," all Female Weaknesses, Suppressions of the Periods, Pale and Sallow Complexions, all Diseases arising from Mental Worry, Over-Work, Excess, Early Decay, Etc."	"For Anemic Conditions, Diseases Caused by or Dependent upon Thin, Impoverished Blood and for Nervous Disorders resulting from Mal-Nutrition. Useful wherever a nervine or digestive tonic is required.
"This wonderful remedy is offered to the public . . ."	"These pills are offered to the public. . . ."
"Dr. Williams' Pink Pills also invigorate the Blood. . . ."	"Dr. Williams' Pink Pills are designed to invigorate the Blood . . ."
"Suppression of the Menses. .	(Omitted.)
"Locomotor Ataxia . . ."	(Omitted.)

It is worthy of note that while the claims now made in the United States, as quoted above, are more conservative than those on which the government charged the company with fraud, yet the claims on which the company was found guilty of fraud were not nearly so positive and blatant as those quoted above as being made today for the Canadian product.

PAINE'S
Celery Compound

Each Fluid Ounce Represents

Celery Seed	10 grains
Calisaya Bark	2 "
Cascara Sagrada	2 "
Senna Leaves	9 "
Prickly Ash Bark	1 "
Sarsaparilla Root	2 "
Hops	1 "
Ginger Root	2 "
Dandelion Root	1 "
Mandrake Root	1 "
Black Haw	1 "
Gentian Root	1 "
Chamomile Flowers	2 "
Black Cohosh Root	1 "
Yellow Dock Root	1 "
Potassium Nitrate	4 "
Dilute Phosphoric Acid	15 minims

SOLVENT: Glycerin, Water.

12

CANADA

PAINE'S
Celery Compound

Contains:

Alcohol, 19.85 per cent.
Celery Seed,
Calisaya Bark,
Cascara Sagrada,
Senna Leaves,
Prickly Ash Bark,
Sarsaparilla Root,
Hops,
Ginger Root,
Dandelion Root,
Mandrake Root,
Black Haw,
Gentian Root,
Chamomile Flowers,
Black Cohosh Root,
Yellow Dock Root,
Potassium Nitrate,
Glycerin,
Sugar,
Water.

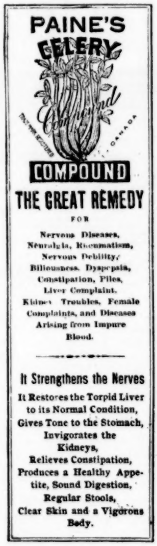
12

UNITED STATES

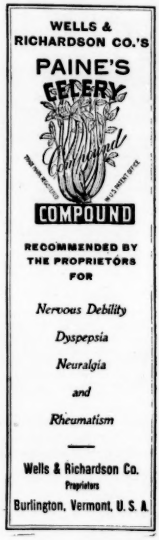
Photographic reproduction (reduced) of page 12 from the booklets accompanying the bottles of Paine's Celery Compound as sold, respectively, in Canada and the United States. It will be seen that the only ingredient whose quantity is given the public in the United States is the alcohol—which the law demands. In Canada, where the law does not demand it, the presence of alcohol is not mentioned, although the alleged quantities of the other ingredients are given. Canadian officials state that an analysis of Paine's Celery Compound on sale in Canada disclosed the presence of over 16 per cent. alcohol. The Canadian public would be justified in assuming from the alleged formula published that the stuff contained no alcohol but that the solvents used were glycerin and water.

PAINE'S CELERY COMPOUND

"Paine's Celery Compound" belongs to the "bracer" type of nostrums; that is, it is a preparation whose most potent and active drug is alcohol. Some years ago it used to be one of the most widely advertised of "patent medicines." The concern, apparently, had testimonials galore, many of them from individuals whose ability along certain special lines was as great as their ignorance of the nature, cause and treatment of disease was abysmal. According to one of the old advertising booklets sent out by manufacturers of Paine's Celery Compound, Sarah Bernhardt was "convinced that it is the most powerful nerve strengthener that can be found," while "Edward L. Preetorius, Manager of the *Westliche Post*" considered this medicated booze "the only remedy that will restore


PAINE'S
CELERY
COMPOUND
THE GREAT REMEDY
FOR
Nervous Diseases, Neuralgia, Rheumatism, Nervous Debility, Biliousness, Dyspepsia, Constipation, Piles, Liver Complaint, Kidney Troubles, Female Complaints, and Diseases Arising from Impure Blood.
It Strengthens the Nerves
It Restores the Torpid Liver to its Normal Condition, Gives Tone to the Stomach, Invigorates the Kidneys, Relieves Constipation, Produces a Healthy Appetite, Sound Digestion, Regular Stools, Clear Skin and a Vigorous Body.

CANADA



UNITED STATES

Photographic reproduction (reduced) of the labels of "Paine's Celery Compound" as sold in Canada and the United States, respectively. Note that the claims made on the Canadian label that this nostrum "strengthens," "restores," "invigorates" and "relieves" are absent from the label used in the United States.

the nerves which have been shattered by overwork, worry or business cares." The same booklet declares that "Rev. Zephaniah Meek, D.D., Editor of the *Central Methodist*," had used several bottles "with immediate effect as well as permanent benefit." Especially significant of the way in which the public was fooled in those days before the presence and amount of alcohol had to be declared on the labels was the alleged testimonial of "Francis Murphy, Founder of the Blue Ribbon Movement," who endorsed Paine's Celery Compound as "a splendid remedy."

These are but a few of the endorsements of Paine's Celery Compound published in the good old days. The claims made today on the trade package as it is sold in the United States, are relatively conservative and innocuous. A booklet that comes around the bottle gives a list of drugs that are said to enter into the composition of this nostrum. No quantities, however, are vouchsafed (in the United States) except that of the one ingredient which the law requires to be made public, namely, alcohol, of which it has 19.85 per cent. The list gives fifteen vegetable drugs and, in addition, potassium nitrate, glycerin and sugar. As the state chemists of Connecticut, who have analyzed the stuff, point out, the list of these fifteen vegetable drugs "loses much of its impressiveness when it is seen that the total amount of vegetable extractives

is less than 1.5 per cent." Much more impressive is the nearly 20 per cent. alcohol! The booklet accompanying the Canadian trade package also contains a list of the alleged ingredients. This list differs from that found in the packages sold in the United States in that it contains a quantitative statement of the various drugs listed! It tells how many grains of each of the fifteen vegetable drugs are represented in each fluid-ounce of Paine's Celery Compound; also it tells the amount of potassium nitrate. But one thing it does *not* tell—the amount of alcohol! In fact, it does not even admit that the Canadian product contains any alcohol! On the other hand, it emphasizes the alleged fact that the "solvent" in the Canadian product is glycerin and water; also it mentions that in each fluidounce there are 15 minims of dilute phosphoric acid, a drug whose presence is not mentioned in the product sold in the United States. As Paine's Celery Compound without alcohol seemed almost as much of an anomaly as *Hamlet* with Hamlet left out, we wrote to the Inland Revenue Department of Canada calling attention to these facts. The Inland Revenue Department replied that Paine's Celery Compound, as sold in Canada (giving no information regarding the amount or even the presence of alcohol), had been examined and, as a result, alcohol (over 16 per cent. by volume) *was* found, while phosphoric acid could not be detected!

The claims in the trade package of Paine's Celery Compound as sold, respectively, in Canada and the United States varied thus:

CANADA	UNITED STATES
Solvent: "Glycerin, Water."	Alcohol, 19.85 per cent.
"A True Nerve Tonic, an Active Alterative, a Reliable Laxative and Diuretic. It Restores Strength, Renews Vitality, Purifies the Blood, Regulates the Kidneys, Liver and Bowels."	(Omitted entire.)
"A Reliable Medicine for general nervous debility and diseases arising from a debilitated nervous system. A powerful Alterative and Diuretic; a Valuable Remedy for Dyspepsia, Biliousness, Constipation, Piles, Liver Complaint, Neuralgia, Rheumatism, Fever and Ague, and Kidney Trouble; also Female Complaints, and diseases arising from an impure state of the Blood. It acts at the same time as a tonic, reviving the energies and spirits, making it one of the best medicines in existence for aged people."	(Omitted entire.)
"The Great Remedy for Nervous Diseases, Neuralgia, Rheumatism, Nervous Debility, Biliousness, Dyspepsia, Constipation, Piles, Liver Complaint, Kidney Troubles, Female Complaints, and Diseases Arising from Impure Blood."	"Recommended by the Proprietors for Nervous Debility, Dyspepsia, Neuralgia and Rheumatism."

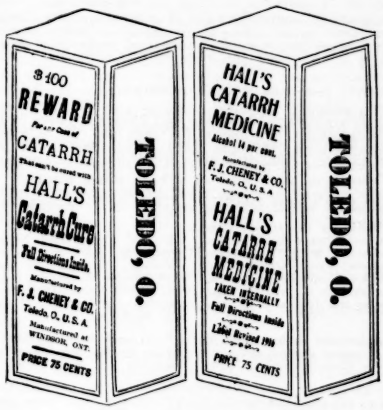
From a comparison of the old advertising in our files, it seems that the people of Canada are being served with claims for Paine's Celery Compound of the vintage of '98.

HALL'S CATARRH MEDICINE

"Hall's Catarrh Cure" (Canada), or "Hall's Catarrh Medicine" (United States), was found, by government chemists, to contain more than 13 per cent. alcohol, over 10 per cent. potassium iodid, 3 per cent. of sugar and a small amount of some bitter extract, probably gentian, with small quantities of cardamom and caraway and water. This nostrum has for years used an obviously false name ("Hall's Catarrh Cure"). Finally the state of Nebraska declared the stuff misbranded because of the use of the word "cure." The company took an appeal, but before the matter reached the Appellate Court apparently changed its mind and asked for a dismissal of the appeal, expressing at the same time its purpose of changing the name of its preparation to "Hall's Catarrh *Medicine*." The difference in the claims on the trade packages in Canada and the United States may briefly be shown:

CANADA	UNITED STATES
"Hall's Catarrh Cure."	"Hall's Catarrh Medicine."
(No alcohol declared.)	"Alcohol 14 per cent. 3 ounces."
"$100 Reward For any Case of Catarrh That Can't be cured with Hall's Catarrh Cure."	(No reward offered.)

The "offer" of this concern, to pay $100 for any case of "catarrh" that the nostrum fails to cure, has been made for many years. One case has been recorded of an individual who, after taking twenty-six bottles of the stuff, wrote to the nostrum company telling them that instead of being benefited he felt worse and asked them either to refund his money or to pay him the hundred dollars in accordance with their "offer." He, of course, got neither; the company said that he had not taken enough to give the medicine a fair chance! The exploiters still make this "offer" in their newspaper advertising in the United States, but have eliminated it from the trade package. It is significant that the federal law does not control claims made elsewhere than on the trade package. In Canada, as the quotations above show, the hundred dollar "offer" still appears on the trade package.



CANADA UNITED STATES

Photographic reproduction (reduced) of the labels of "Hall's Catarrh Medicine" as sold in Canada and the United States, respectively. Comparison of the labels shows that the presence and amount of alcohol is admitted where the law demands it (in the United States), but no mention is made of it in Canada. While the stuff is called a "cure" in Canada, where there is no penalty for false and fraudulent therapeutic claims, it is a "medicine" in the United States. In the United States also the "$100 Reward" does not appear on the trade package.

HOOD'S SARSAPARILLA

Like most of the so-called sarsaparillas, Hood's nostrum is an alcoholic solution of vegetable extractives and potassium iodid. The difference in the claims made in Canada and the United States are shown:

CANADA	UNITED STATES
"Contains 18 per cent. alcohol. The smallest quantity that will extract and preserve all the remedial properties of the ingredients."	"Contains 16½ per cent. alcohol. Used only as a solvent and preservative. This is a concentrated medicine, to be taken only in small doses, according to the directions enclosed."
"The Great Blood Purifier and Tonic, for Eradicating Scrofula, Scrofulous Sores and all Scrofulous Diseases, and for Purifying, Enriching and Vitalizing the Blood and Restoring and Renovating the whole system."	(Omitted.)

It will be noticed that the Canadian product contains 18 per cent. alcohol which the manufacturers declare is "the smallest quantity that will extract and preserve all the remedial properties of the ingredients." The stuff sold in the United States under the same name contains only 16.5 per cent. alcohol. Is it to be inferred that some of the "remedial properties" are lacking?

CANADA UNITED STATES

Photographic reproduction (reduced) of the labels of "Dr. Chase's Nerve Pills" as sold, respectively, in Canada and the United States. Chase's Nerve *Pills* use to be a "Nerve *Food*" in the United States—but that was before there was a law penalizing falsehood.

DR. CHASE'S NERVE PILLS

This somewhat insignificant humbug used to be called "Dr. Chase's Nerve Food" before the federal Food and Drugs Act made falsifying expensive. Then "Food" became "Tablets" and still later "Pills." It is still a "Food" in Canada. Compare:

CANADA	UNITED STATES
"Dr. Chase's Nerve Food."	"Dr. A. W. Chase's Nerve Pills."
"Builds up the system, Cures Thin and Watery Blood, Nervous Prostration, Brain Fag, Nervous Headache, Female Trouble, Pale & Sallow Complexion, Heart Failure, Dizziness & Fainting, Sleeplessness and General Weakness."	"Used in the Treatment of Thin and Watery Blood, Nervous Prostration, Brain Fag, Nervous Headache, Nervous Dyspepsia, Pale & Sallow Complexion, Irregular Heart Action, Dizziness & Fainting, Sleeplessness and General Weakness."
". . . makes it impossible for the following diseases and symptoms of diseases, to exist. . . ."	". . . make it next to impossible for the following diseases and symptoms of diseases, to set in: . . ."
". . . this great food cure . . ."	". . . this great nerve medicine. . . ."
"There is no preparation known which will so quickly create new, rich blood. . . ."	"There is no preparation known which will more quickly create new, rich blood. . . ."

It will be seen that, aside from the change in the name of the product, the difference in the claims is essentially the difference between the "lie direct" and the "lie with circumstance."

CANADA UNITED STATES

Photographic reproduction (reduced) of the labels of "Gino Pills" as sold, respectively, in Canada and the United States. Of course, gin cannot be put up in pill form and, therefore, it would be a violation of the United States Food and Drugs Act to sell this nostrum as "Gin Pills."

GINO PILLS

While it is obviously impossible to put up brandy, whisky or gin in pill form, one finds on the Canadian market "Gin Pills" which are recommended "for the kidneys." The same preparation sold in the United States is not, of course, called "Gin Pills," as that would at once bring the manufacturers in conflict with the federal law prohibiting false or misleading statements regarding composition. Here we find them as "Gino Pills for the Kidneys." The variations in claims made for these pills in Canada and the United States, respectively, are not especially striking, but are nevertheless worthy of the study of those interested in truthful advertising:

CANADA	UNITED STATES
"Gin Pills for the Kidneys."	"Gino Pills for the Kidneys."
"The various ingredients composing the formulae are the best known to the medical profession . . ."	"The various ingredients composing the formulae are among the best known to the medical science . . ."
"For this purpose (laxative) there is nothing better than the National Lazy-Liver Pills."	"For this purpose (laxative) we know of nothing better than National Lazy-Liver Pills."

SUMMARY

The nostrums to which we have called attention are not the only ones whose varying claims in Canada and the United States have been examined. They are, however, sufficient to bring out these facts: The "patent medicine" industry as a whole is founded on falsehood; misleading and false claims will be made for such preparations, at least in the majority of cases, just so long as the manufacturers are subject to no restraint except their own consciences. As has been shown time and again in these pages, nostrum exploiters in the United States have greatly modified the claims for their products as such claims appear on the trade packages, because federal and state laws have provided penalties for falsehood and fraud. These same manufacturers have continued to falsify and mislead in those avenues of publicity (newspapers, etc.) which are not subject to legislative restraint. The same manufacturers have continued to falsify even on their trade packages in Canada where there is no law prohibiting it.

The "patent medicine" interests in the United States have complained loudly and frequently that their business has been and is unduly hampered by legislation. They have insisted that while it was admitted there were certain concerns in their line of business that were not above criticism, the business as a whole was no worse than any other industry. Unfortunately for them and still more unfortunately for the public, these protestations of innocence are not borne out by facts. Even a cursory study of the "patent medicine" problem will show that while in occasional and rare instances a "patent medicine" manufacturer will voluntarily modify his statements and temper his claims, in general, the "patent medicine" industry is just as dishonest as it dares be.

Garbage.—New York's garbage, by treatment in a $3,000,000 recovery plant of the latest type, yields grease for 70,000,000 cakes of soap; 1,500 tons of nitrogen; 2,000 tons of phosphoric acid, 500 tons of potash. With the nitrogen, and the glycerin from soap making, there is a recovery of material yielding 3,500,000 pounds of high explosives, while the phosphoric acid and potash, as well as the nitrogen, are valuable in the making of commercial fertilizers. This plant operating under the so-called Cobwell process, which treats garbage almost entirely by chemical methods, has effected increased recoveries of valuable products amounting to at least 25 per cent. more than recoveries under the best previous reduction methods used for New York's garbage. In soap, for instance, there is an additional recovery of grease for 10,000,000 cakes a year, and in high explosives material for 700,000 pounds. The chemical treatment followed not only eliminates all odors incident to the old boiling process, by which garbage was cooked for a long period in water, but saves many of the rich chemical elements which were formerly lost. Under the old process it is said a large percentage of these elements were cooked into a rich soup, and then the soup was thrown away. Moreover, a considerable percentage of grease was burned by the high temperature driers used before degreasing, and the cooking process had a splitting effect on the material which led to considerable losses of glycerin. The new process saves these. The plant is more expensive to install, but much more economical in operation.—*Weekly Bulletin.*

Correspondence

CORNEAL TATTOOING

To the Editor:—I notice in THE JOURNAL, Oct. 27, 1917, p. 1420, an article by F. H. Verhoeff of Boston on a substitute for tattooing the cornea with India ink for the purpose of obliterating white corneal scars, etc. His method consists in injecting a solution of India ink into the layers of the cornea by means of a hypodermic syringe. Never having tried this method, I am not in a position to criticize it; but it seems to me that it is not at all an ideal procedure. I have for years abandoned the old method of tattooing the cornea with needles and India ink. This procedure is undoubtedly satisfactory when skin tattooing is under consideration, but it is not at all satisfactory for corneal tattooing. It requires a good deal of force to thrust the needles into the cornea, and then when this is done the black stain produced by each needle is very minute, and the needles have to be thrust in over and over and over again, and even then a large area of the cornea will be left untattooed.

My method of tattooing the cornea is extremely simple. I merely take a cataract knife and scrape off the corneal epithelium where I desire to produce a black stain. This can be done with great accuracy, and is especially useful when we wish to produce a round stain simulating a pupil. Having scraped off the corneal epithelium with the exactness which is possible with this procedure, I then rub into the cornea a thick emulsion of the India ink with a little cotton tightly twisted on a toothpick or cotton holder. This is done thoroughly several times in order to force the ink to soak into the tissues. The eye is not closed for about ten minutes in order to give the ink an opportunity to stain the tissues. The usual postoperative dressings are then made. Of course, a certain amount of this stain will wear off, and it may be necessary to repeat the little operation in a few days or weeks until a good India ink stain is produced. Still, I have seen several cases in which only one treatment was necessary, and I do not remember having done it more than twice. Naturally, in the course of a year or two it is sometimes necessary to give the cornea another India ink staining.

This method of staining the cornea is simple, efficacious and accurate. It has always given satisfactory results, and is a procedure to be recommended.

FRANK ALLPORT, M.D., Chicago.

"SCIENCE"

To the Editor:—May I be permitted to correct a misstatement regarding the teachings of Christian Science which appeared in your issue of October 13 under the caption "Science," namely, that "for the Christian Scientist, germs do not exist; the tubercle bacillus is but a creature of the medical man's disordered fancy." Christian Science does not teach that germs exist only in the mind of the medical man. It teaches that disease, like physicality itself, is in the realm of false belief, and that is where it needs to be corrected or "cured" and not by something administered to the body. THE JOURNAL appears to consider such teaching as worthy only of a sneer; but it should not be forgotten that the profession, as a whole, is granting a constantly increasing importance to mental causes, such as fear, in the production even of germ diseases.

Our critic implies that to look through a microscope and see a germ settles the question between medicine and Christian Science in favor of the doctor. Of course it does not, any more than to bruise your knuckles on a stone floor settles the question as to materiality of matter. In spite of the bruised knuckles, the modern physicist insists that the "material" atom is a mass-point of force—absolutely unmaterial. In other words, another case of false belief. In the same way and for similar reasons the Christian Scientist, in spite of the microscope, is convinced that disease, like all evil, is the product of the human mind.

Christian Scientists and the medical profession do not agree as to what the mental factor is in a disease such as tuberculosis, but the profession would no longer contend that it is nothing.

AVERY COONLEY, Committee on Publication for Illinois, Chicago.

[COMMENT.—As most of our readers probably know, Mrs. Eddy's followers have what is possibly the most alert press bureau of any organization in the world. Every article that can in any way be construed as a criticism of "Christian Science" is answered by the "Committee on Publication." Mr. Coonley's letter is of this class.

The mental processes of the professional "Christian Scientist" are so hopelessly awry that one must despair of answering the casuistic arguments offered. Mr. Coonley's letter would indicate that his sect believed that the medical profession took no account of the mental element in the treatment of disease, although, of course, it knows perfectly well that applied psychotherapy antedated not only Mrs. Eddy but Quimby also, by many centuries.

The statements in the letter above to the contrary notwithstanding, it *is* a fact that to Christian Scientists "the tubercle bacillus is but a creature of the medical man's disordered fancy"—in the sense, obviously meant in our editorial, of being the immediate and proximate cause of tuberculosis. The letter admirably illustrates the loose and illogical modes of thought employed by Mrs. Eddy's professional followers. Mr. Coonley points to the physicist's philosophical definition of matter as "a mass-point of force" as proof of the unmateriality of matter, and insists that bruising one's knuckles on a stone floor does not settle "the question as to the materiality of matter." To most normal intellects it *does* most effectively settle the question. Nor are "Christian Scientists" themselves averse to coming "down to earth" in certain phases of their "healing" activities. It is a matter of common observation and frequent comment that while Mrs. Eddy's followers insist that disease is wholly a "question of mind," they are by no means averse to being paid for their "treatments" by those conglomerations of "mass points of force" which, in the parlance of the unregenerate, are known as material dollars.—ED.]

THE ETIOLOGY OF SCURVY

To the Editor:—I have read the editorial on this subject in THE JOURNAL (Sept. 1, 1917, p. 728), and think that my experience here may be of interest, as I treated about 3,000 cases in the year 1915.

This island lies in the Caribbean Sea close to and north of Venezuela, and the climate is very dry, there being only a few months a year in which it rains. The food of the poorer and laboring people consists chiefly of small or Guinea corn, corn meal, fish, generally salted, and a small amount of goat or sheep meat, fresh or salted and dried. In a normal year between April and November there are practically no green vegetables to be had except the small amount imported, which is hardly sufficient to supply the richer persons in the town. In a year of drought not only do the people suffer from a lack of green vegetables and fruit but all the rain water becomes exhausted, and then they must drink water from wells that are more or less brackish. During the years 1912, 1913 and 1914, so little rain fell that the people were unable to get any crops. Being helped by the government and by working in the mines and aloes plantations, they were able to buy enough corn meal to keep from starving, but they suffered greatly from scurvy.

That scurvy is probably a disease caused by the lack of some necessary substance contained in fresh vegetables and fruit is shown by the following observations:

The greatest sufferers were the people in the districts in which the food consisted almost entirely of corn meal.

The richer class living in the same districts under the same conditions but who were able to afford fresh vegetables and fruit did not show any symptoms of scurvy.

Lime juice helped to prevent and to cure.

As soon as the rains came and the people were able to get fresh vegetables, the scurvy disappeared.

This year has also been very dry; and although the people of the outlying districts have had good drinking water, they have not had any fresh vegetables for months, and I am again beginning to see patients with symptoms of scurvy. I have observed that those who have had scurvy are more susceptible to it.

GEORGE R. HOPKINS, M.D., Aruba, Dutch West Indies.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ANTITYPHOID INOCULATION

To the Editor:—The statement has been made that during the Boer War there was at least a certain amount of antityphoid inoculation employed, and that in spite of this there was a large incidence of typhoid fever among the English troops. Can you give me any information as to the truth or error of this statement, or refer me to any medical literature from which I can gain such knowledge?

Winfred Overholser, M.D., Westboro, Mass.

Answer.—In the Boer War, according to the Antityphoid Commission Report made to the Army Medical Department of Great Britain in 1913, an extended trial of antityphoid inoculation was made by Sir Almroth E. Wright. The inoculation was voluntary, and there are official records of the inoculation of 14,626 men out of a total strength of 328,244 men who served during the three years of the war. "Owing to the difficulties of obtaining accurate statistical information, which appears to be inseparable from active service in the field, the evidence in the case of typhoid vaccine and its power to protect against attack proved disappointing, and it was only in certain units that the material was of sufficient homogeneity to be of value."

Dr. Wright believed that the extent of the disease was diminished about one-half, and that the mortality was favorably influenced to an even greater extent. At that time the cultures were heated to 60 C. in order to destroy their vitality. It has since been shown that this amount of heat injures or destroys to a great extent the power of the vaccine to produce a good response in the formation of those substances on which the body depends for its protection. According to Rosenau (Preventive Medicine and Hygiene), in 1900, during the Boer War, Wright, together with Leishman, prepared a vaccine and supervised the inoculation of 100,000 British troops. The results in India were quite encouraging, but for various reasons, the same procedure in South Africa was not as satisfactory as had been anticipated. Leishman explains the lack of success by saying that the vaccine may have been made less efficient by the use of too great heat in killing the bacilli.

In a recent address before the Clinical Congress of Surgeons, as reported in The Journal last week, Sir Berkeley Moynihan said that 98 per cent. of English soldiers have been voluntarily inoculated against typhoid, with the result that they have had only 292 deaths from that disease and only 6,022 cases altogether, whereas in the South African War they had 57,684 cases with over 8,000 deaths, although the present army, infinitely larger, is living under much more difficult circumstances.

SHOTGUN VACCINES FOR "COLDS"

To the Editor:—Has there been work done of sufficient extent to be of value in justifying use of mixed "shotgun" vaccines to abort or immunize "common colds," that is, rhinitis, pharyngitis, acute bronchitis, coryza, etc.?

Charles E. Bennett, M.D., Aneta, N. D.

Answer.—We know of no investigation which demonstrates that the use of the commercial mixed vaccines are of value in the prevention or treatment of "common colds" or of similar affections. The Council on Pharmacy and Chemistry accepts for New and Nonofficial Remedies mixed vaccines only on condition that their usefulness has been established by acceptable clinical evidence; so far it has not admitted any of the "influenza" or "catarrhal" mixed vaccines.

SALARY AND ALLOWANCES OF M. R. C. OFFICER

To the Editor:—1. If a physician with a dependent wife enlists in the Medical Reserve Corps, is any allowance made for his wife aside from his regular salary

2. When a physician accepts a commission, does his salary date from the time of his acceptance or from the time he is actually called into service or training?

C. M. Murrell, M.D., Matherville, Ill.

Answer.—1. No.

2. An officer's salary commences on the day on which he reports for active duty. He is on active duty when he goes into training.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arkansas: Little Rock, Nov. 13-14. Sec., Dr. T. J. Stout, Brinkley.

Arkansas: Eclectic: Little Rock, Nov. 13. Sec., Dr. C. E. Laws, 803½ Garrison Ave., Fort Smith.

Connecticut: New Haven, Nov. 13-14. Sec., Dr. Charles A. Tuttle, 196 York St., New Haven.

Connecticut: Homeopathic: New Haven, Nov. 13. Sec., Dr. E. C. M. Hall, 82 Grand Ave., New Haven.

Connecticut: Eclectic: New Haven, Nov. 13. Pres., Dr. J. W. Fyfe, Saugatuck.

Delaware: Wilmington, Dec. 11-13. Sec., Dr. H. W. Briggs, 1026 Jackson St., Wilmington.

Florida: Jacksonville, Dec. 4-5. Sec., Dr. W. M. Rowlett, Citizens Bank Bldg., Tampa.

Kentucky: Louisville, Dec. 4-6. Sec., Dr. A. S. McCormack, Bowling Green.

Louisiana: New Orleans, Dec. 6-8. Sec., Dr. E. W. Mahler, 730 Audubon Bldg., New Orleans.

Maine: Portland, Nov. 13-14. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.

Maryland: Baltimore, Dec. 11. Sec., Dr. J. McP. Scott, 137 W. Washington St., Hagerstown.

Massachusetts: Boston, Nov. 13. Sec., Dr. Walter P. Bowers, Room 501, No. 1 Beacon St., Boston.

Missouri: St. Louis, Dec. 17-19. Sec., Dr. George H. Jones, 206 Washington St., Jefferson City.

Nebraska: Lincoln, Nov. 14. Sec., Dr. J. J. Hompes, 612 Security Mutual Life Bldg., Lincoln.

New Hampshire: Concord, Dec. 10-12. Sec., Dr. W. S. Crosby, Beacon Bldg., Manchester.

Ohio: Columbus, Dec. 4-6. Sec. Pro-tem., Dr. Herbert M. Platter, 105 E. State St., Columbus.

South Carolina: Columbia, Nov. 13. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.

Texas: Dallas, Nov. 20-22. Sec., Dr. M. F. Bettencourt, Mart.

Virginia: Richmond, Dec. 11-14. Sec., Dr. J. W. Preston, McBain Bldg., Roanoke.

West Virginia: Clarksburg, Nov. 21-23. Chairman, Dr. S. L. Jepson, Capitol Bldg., Charleston.

REPORT OF THE THIRD EXAMINATION OF THE NATIONAL BOARD OF MEDICAL EXAMINERS

The third examination of the National Board of Medical Examiners was held in Chicago, Oct. 10-18, 1917. The subjects of the examination and the relative value of each were: anatomy, 100; physiology, 75; chemistry, 75; pathology, 50; materia medica, pharmacology and therapeutics, 75; medicine, 200; surgery, 200; obstetrics and gynecology, 100; hygiene and sanitation, 50, and medical jurisprudence, 25. A percentage of 75 was required to pass. Falling to 65 per cent. in two subjects, or below 50 in one subject constituted failure. Of the sixty-five who applied, sixty-two were found to have the essential preliminary and medical qualifications, and twenty-nine of these appeared for the examination. Of these twenty-two passed, six failed, and one for good reasons had to withdraw before completing the examinations. The results for the candidates examined were as follows:*

Names of Candidates and Colleges	PASSED	Year of Graduation
Robert W. Keeton, Northwestern Univ. Med. School		1916
Gordon E. Hein, Northwestern Univ. Med. School		1916
Martin R. Broman, Rush Medical College		1915
Francis J. Scully, Rush Medical College		1915
William D. Inlow, Rush Medical College		1917
Frederick W. Slobe, Rush Medical College		1917
John W. Thornton, Rush Medical College		1915
Josephine E. Smith, Rush Medical College		1917
Harold L. Hickey, Northwestern Univ. Med. School		1917
George W. Scupham, Northwestern Univ. Med. School		1916
John W. Visher, Rush Medical College		1917
Edward F. Mielke, Rush Medical College		1917
Earle K. Hallock, Rush Medical College		1916
Carl Freund, Rush Medical College		1917
Frank W. Young, Northwestern Univ. Med. School		1917
Edmund Andrews, Rush Medical College		1915
Jay Ireland, Rush Medical College		1917
Arthur K. Baldwin, Rush Medical College		1916
Hermon G. Bumpus, Harvard Medical School		1915
Willard H. Waterous, Northwestern Univ. Med. School		1916
Aloysius J. Larkin, Rush Medical College		1916
Edgar H. Albers, Northwestern Univ. Med. School		1917
	FAILED	
Rush Medical College		1916
Northwestern University Medical School		1917
University of Pennsylvania		1913
Rush Medical College		1915
State University of Iowa Medical School		1916
Northwestern University Medical School		1917

*The names are given in order of the numbers in the table of "Averages Obtained."

AVERAGES OBTAINED

Candidate's Number	Anatomy	Chemistry	Pharmacology, Materia Medica and Therapeutics	Obstetrics and Gynecology	Hygiene	Medicine	Surgery	Pathology	Bacteriology	Physiology	Medical Jurisprudence	General Averages of Candidates
1	78	96	90	87	84	85	87	88	90	96	96	87
2	81	76	94	85	88	88	89	84	90	88	84	86
3	77	88	88	95	84	89	84	87	88	76	92	85
4	85	88	72	82	82	86	87	92	88	92	96	85
5	85	76	84	82	90	87	88	82	82	92	84	85
6	85	64	96	92	84	88	85	85	80	88	88	85
7	80	68	86	90	86	84	89	85	86	80	92	84
8	82	76	90	100	76	87	74	86	70	87	80	83
9	91	76	84	85	78	85	77	88	66	76	68	81
10	69	59	92	87	92	88	85	70	80	81	88	81
11	77	84	74	85	86	79	82	85	76	88	80	81
12	71	64	78	85	86	83	85	79	84	85	80	80
13	68	88	84	90	76	85	80	71	78	77	84	80
14	91	72	72	78	76	88	82	81	76	88	76	80
15	67	73	84	76	76	86	86	90	78	80	84	80
16	75	80	72	70	76	80	91	76	78	88	84	79
17	75	83	78	76	56	85	90	86	80	76	84	79
18	74	80	85	82	66	84	90	72	74	81	72	79
19	72	86	85	87	82	82	87	76	76	60	76	79
20	76	60	88	90	70	82	76	80	78	82	96	79
21	54	81	68	90	76	80	85	84	76	84	80	78
22	80	64	84	75	66	82	75	66	76	72	88	75
23	69	54	86	75	62	79	82	84	70	74	60	74
24	72	59	84	75	62	84	69	76	68	72	72	73
25	76	64	80	72	60	85	90	63	68	71	74	73
26	72	64	88	64	60	78	90	80	60	64	50	70
27	51	52	78	64	52	88	85	77	70	72	68	68
28	61	49	76	60	66	78	63	75	78	72	64	67
General average by subjects.	74.2	72.6	83.6	81.1	74.3	84.3	83.9	79.2	77.2	80	80.4	79.2

EXAMINATIONS AND TIME ALLOWED

Subject	Kind of Examination	
	Written	Other, and Remarks
Anatomy	3 hours	Oral with prepared Spec. 20 min. for each candidate
Chemistry	3 hours	Two hours laboratory in physiologic chemistry
Physiology	3 hours	Laboratory 2 hours
Pathology	3 hours	Laboratory exam. 20 min. each cand.
Bacteriology	2 hours	Laboratory 2 hours
Materia medica, pharmacology and therapeutics	3 hours	Laboratory 2 hours
Medicine	3 hours	Clinical lab. ½ hour each cand.; clin. med. 3 hours
Surgery	3 hours	Lab. op. surg. and applied anatomy, 2 hours; clin. exam., 3 hours
Eye, ear, nose and throat		Clinical exam., 30 min. each candidate
Dermatology		Clinical exam., 20 min. each candidate
Obstetrics and gynecology	3 hours	Oral exam. of 10 min. for each cand.
Hygiene	2 hours	
Medical Jurisprudence	2 hours	

The examination consisted of written, oral, laboratory and clinical tests. The questions asked were as follows:

Anatomy

Written Examination.—1. Describe the elbow joint with overlying structures and muscular attachments in immediate vicinity. 2. Name cavities of heart and describe the valves. 3. Define synarthrosis, amphiarthrosis, diarthrosis. Example of each. 4. Through what arteries is collateral circulation established after ligation of common carotid? 5. Origin, insertion, action and nerve supply of (*a*) triceps extensor cubiti; (*b*) serratus magnus; (*c*) pectoralis minor; (*d*) biceps femoris. 6. Describe the lacrimal apparatus.

Oral Examination.—Each candidate was examined orally for twenty minutes during the course of the written examination.

Gross Anatomy.—For this purpose the skeleton, prepared museum preparations, and fresh dissections were used.

Histology.—Identification of specimens under the microscope, (1) skin epithelium, (2) liver, (3) cartilage, (4) small intestine, (5) spinal cord.

Physiology

Written Examination.—1. Describe the methods by which may be determined the events of the cardiac cycle in the right and left sides of the heart, respectively, in man. Detail the results. 2. (*a*) What is the normal stimulus of the respiratory nerve center? (*b*) What is meant by the "buffer" action of the blood salts and what is its use? (*c*) What condition supervenes when the "buffer" action is inadequate? 3. (*a*) What relation has the "pulse pressure" in an artery to the volume of blood passing through it? (*b*) What are the factors determining pulse pressure? 4. Give evidence as to the functions of the thyroid gland. 5. Describe the origin and function of secretin. 6. Give the various functions of the sympathetic nerve. 7. Describe the stages of protein digestion. 8. Give the qualitative and quantitative essentials for the diet of a working man.

Practical Examination.—Each candidate was required to make 4 or 5 tests, as time permitted, of the following: Demonstrate the circulation in the web, mesentery, tongue or lung of a curarized frog. Differentiate the various vessels and point out the specific character of blood flow in them. 2. On a minor arterial schema eject by an intermittent pump water through (*a*) a rigid tube without peripheral resistance; (*b*) a rigid tube with peripheral resistance; (*c*) through an elastic tube without peripheral resistance; (*d*) through an elastic tube with peripheral resistance. Describe the results and deduce from them an explanation of the fundamental features of the blood circulation. 3. With the polygraph demonstrate and describe the human jugular pulse with the carotid or radial pulse as a chronoscope. 4. Obtain by the auscultatory method the human blood pressures with the subject in the recumbent and in the standing positions. Discuss the results. 5. Compare the maximal blood pressures in the brachial artery when the arm is held at various levels. Explain results. 6. With the human subject in the supine position, obtain the maximal blood pressure in the brachial artery; now apply a sandbag to the abdomen and repeat. Explain the difference, if any. 7. Pith a frog or terrapin and demonstrate on it by faradic stimulation the inhibitory function of the vagus nerve. Apply to the heart a solution of atropin and repeat. 8. Draw carefully graphic tracings representing the following: (*a*) The radial pulse; indicate on it the various phases of the heart's activity. (*b*) The normal arterial blood pressure tracing in the dog as obtained with mercury manometer, and the effect on it of vagus inhibition of various degrees: Explain. (*c*) The arterial pressure tracing in a rabbit and the effect of stimulating the depressor nerve: Explain. (*d*) Tracings representing the "auricular" and the "ventricular" forms of the jugular pulse. 9. (*a*) On a revolving smoked cylinder obtain the curve of a single muscular contraction excited by an induction shock. (*b*) Obtain the summation of two contractions. (*c*) Obtain an incomplete and a complete tetanus. (*d*) Varying the strength of the current, obtain a series of contractions from minimal to maximal. 10. Demonstrate the action of curare on the transmission of the motor impulse in a frog's nerve. 11. Make a nerve-muscle preparation from a hind limb of a frog, preserving the sciatic nerve, and dividing it close to the cord, cutting away the thigh muscles, dividing the femur at its lower third and leaving intact the skin of the leg and foot. Suspend the preparation inverted on a clamp at the knee: The foot will be extended when the gastrocnemius muscle contracts. Introduce a galvanic current into the nerve for a few seconds. Note the period of contraction and the relative effects of ascending and descending currents. Make and break the current and describe the results. Dip the end of the nerve into a saturated solution of NaCl and describe the results. Pinch the nerve and note results. Tie a string tightly round the middle of the nerve and note the effects of pinching on either side of the ligature. 12. (*a*) In a frog in which the brain has been destroyed, note the powers which have been lost and preserved. (*b*) Suspend the animal by the lower jaw and describe the reflex obtained by mechanical and chemical stimulation. (*c*) Inject under the skin of the back 1 drop of a 1 per cent. solution of strychnin: Note the changed response to stimulation; note the effect of destroying the spinal cord: Explain results. 13. (*a*) Test the materials provided, test the reaction of saliva. (*b*) By means of the reagents provided, trace the changes induced in starch paste by digesting it with saliva. (*c*) Note the effect of cooling, of boiling the saliva. 14. Pour a little defibrinated blood into each of the four test tubes: Keeping one for comparison, add to the second an equal volume of water and warm slightly; to the third add a few drops of ether or chloroform and shake; to the fourth add a little bile and shake. Note and explain the conversion into "laky blood." 15. Arrange the spectroscope and obtain a series of absorption spectra of hemoglobin with various dilutions of laky blood. Describe. Obtain the spectrum of reduced hemoglobin with Stokes' fluid, and then reoxidize. Prepare carbon monoxid, hemoglobin and compare its spectrum with that of oxyhemoglobin.

Physiologic Chemistry

Written Examination.—1. What is an amino acid and how many and what amino acids are found in the protein molecule? 2. Give the characteristic color tests for proteins and the significance from a chemical standpoint of each test. 3. Define a purin body and tell what purin substances are formed in the animal body, what relation they have to one another, and in what form each is eliminated. 4. Give the steps in the formation of urea, uric acid and hippuric acid in the body, and the significance of an excess or a deficiency of each of these substances in the urine. 5. Discuss in detail the coloring matters of the blood and the urine, giving the formation and function of these coloring matters and the significance of their presence in excess in the urine.

Laboratory Examination.—Candidates divided into two groups. Each group allowed two hours. Questions asked: 1. Make a quantitative estimation of the sugar in a sample of urine. Determine quantitatively the amount of glucose. 2. Estimate the amount of free hydrochloric acid in a sample of gastric content. 3. Make and report on the chemical and microscopic examination of a sample of urine. 4. Make and report on the examination of a sample of gastric content. 5. Determine the presence or absence of albumin reducing sugar. 6. Make and report on the chemical and microscopic examination of a sample of urine.

Materia Medica and Therapeutics

Written Examination.—Answer the first six questions; of the remaining six choose four: 1. (*a*) Give the source and physical properties of strychnin. (*b*) Describe the action of strychnin on the spinal cord. 2. (*a*) Describe two therapeutic uses of atropin, and state the proper dose to be given in each instance. (*b*) Describe two therapeutic uses of caffein, and state the proper dose to be given in each instance. 2. (*a*) Describe the source and physical properties of morphin. (*b*) Explain the analgesic action of morphin. (*c*) Explain the constipating effect of opium. 4. (*a*) What are the different stages of ether anesthesia? (*b*) Describe the stage of surgical anesthesia. (*c*) Describe the effect of hydrated chloral on the central nervous system, and give the principal therapeutic uses. 5. (*a*) Describe the pharmacologic action of digitalis on the heart muscle. (*b*) In which forms of cardiac disturbance does digitalis exert its best therapeutic effect? 6. What are the indications for the use of mercury in syphilis? 7. (*a*) Discuss fully the administration of quinin in malaria. (*b*) Write a prescription containing quinin, with full directions to the patient. 8. (*a*) Give the source of salicylic acid. (*b*) Describe the effects of large doses of the salicylates. (*c*) Write a prescription containing sodium salicylate, with full directions to the patient. 9. Describe the pharmacologic action and therapeutic use of epinephrin. 10. Name two dissimilar drugs classed as circulatory depressants, and state in what conditions you would use each. 11. Name two evacuants acting mainly on (*a*) small intestine; (*b*) large intestine; (*c*) rectum. (*d*) Define a cholagogue,

and give one example. 12. (*a*) Name three preparations of iron used in medicine. (*b*) Discuss the relative value of iron and arsenic in anemia.

Practical Examination—Individual Laboratory Tests—One Hour.—The candidate is supplied with two frogs and two unknown test solutions. Inject 1 c.c. of the frog solution furnished into the abdominal lymph sac of the frog. Observe the effects and make a careful protocol and record of the changes in the (*a*) skin; (*b*) pupils; (*c*) reflexes; (*d*) general condition. Discuss the results, and give opinion as to the drug used.

Demonstration Test—One Hour.—A dog is prepared as follows: Anesthetized with ether, trachea exposed and severed, after which tracheal cannula is inserted and connected with ether bottle, artificial respiration being continued. The carotid artery is exposed and artificial cannula inserted, connected with manometer. A cannula has been inserted into Wharton's duct, and the chorda tympani and vagus nerve isolated, doubly ligated and cut. The right femoral vein is exposed and cannula inserted. Various drug solutions (marked A, B, C., etc.) will be introduced into the animal and the candidate is required to record his observation as to the effect on blood pressure, heart rate, respiration (rate and depth), salivary flow and size of pupil, and to interpret the same as indicated in each instance. 1. Note the effect of stimulation of the peripheral chorda tympani, and of the central and peripheral ends of the vagus. 2. Note the effect of the injection of 2 c.c. of drug solution A. 3. Repeat test No. 1. 4. Note the effect of the injection of 2 c.c. of drug solution B. 5. Repeat test No. 1. 6. Note the effect of the injection of 2 c.c. of drug solution C. 7. Repeat test No. 1. 8. Note the effect of a second injection of drug solution A. Diagnose the drug used in each instance and state the reasons.

Bacteriology, Medical Zoology and Immunity

Written Examination.—1. (*a*) What are the most important points differentiating streptococci from pneumococci? (*b*) What are our present views as to types of pneumococci, and what bearing has this on the success of serum treatment of pneumonia? 2. (*a*) What are the general characteristics of *B. dysenteriae*, and how do we separate Shiga strains from Flexner ones? (*b*) Name the anaerobic and aerobic spore bearers of pathogenic importance in man. 3. (*a*) Name the various organisms which may cause meningitis. (*b*) What are the laboratory methods of diagnosis of a tuberculous meningitis, and what are the characteristics of the spinal fluid of such a case? 4. (*a*) How does an antitoxic serum differ from an antimicrobic one, and give two or more examples of each? (*b*) What is the difference between active and passive immunity. 5. (*a*) What are the laboratory methods for the diagnosis of a hookworm infection, and outline the life history of the parasite? (*b*) How do the segments and head of *Dibothriocephalus latus* differ from those of *Taenia saginata*?

Laboratory Examination—Two Hours.—Isolation and description of plate cultures prepared from discharge of the throat. Given several animal parasites for identification. Given several stained preparations for identification of special micro-organisms.

Pathology

Written Examination.—Answer five of the following questions: 1. Discuss post-traumatic embolism. 2. Contrast in parallel columns the distinguishing characteristics, gross and microscopic, of benign and malignant tumors of the breast. 3. Contrast in parallel columns the distinguishing characteristics, gross and microscopic, of the lesions in internal organs, of syphilis and tuberculosis. 4. Discuss the pathology of chronic interstitial hepatitis. 5. State briefly the pathologic conditions which may be present ten hours after the receipt of a nonfatal perforating gunshot wound of the abdomen. 6. An unknown middle-aged man has died six hours after having been found on the street, apparently in a drunken stupor. Give the general necropsy technic and the probable essential findings. 7. A man 48 years of age has died two years after the onset of typical pernicious anemia: Tabulate the gross and microscopic changes probably present in the several affected organs.

Laboratory Examination.—During the course of the written examination each candidate was given gross specimens or microscopic sections chosen from the following: Gross: Pulmonary tuberculosis; arteriosclerosis; infarct of spleen; carcinoma of breast; hepatic cirrhosis; typhoid ulcer of bowel. Microscopic: Glomerular nephritis; osteosarcoma; uterine polyp; leukoplakia; broncho-pneumonia.

Medical Jurisprudence

Written Examination.—1. (*a*) Define lunacy as legally recognized. (*b*) Name and briefly describe the varieties of insanity usually recognized. (*c*) What do you understand by "interdiction"? 2. (*a*) Define the medicolegal importance of feigned diseases. (*b*) Give three (3) examples of feigned diseases and indicate the method by which each may be discovered or confounded. 3. (*a*) Name one irritant poison, and give the symptoms or evidences found. (*b*) Give the mode of determining that death was due to such poison, including the postmortem findings. 4. (*a*) What is the difference between a "material" as an "expert" witness? (*b*) Give an example of a hypothetic question. 5. (*a*) What is the function of a coroner? (*b*) Give brief outline of the procedure to be followed in examining a body supposedly dead of asphyxiation by illuminating gas.

Hygiene

Written Examination.—Give the routes of entry and exit of the casual organism in each of the following diseases: mumps, syphilis, dysentery, cerebrospinal meningitis, malaria. 2. What rôle does environment play in the spread of disease? 3. Discuss the advantages and disadvantages, from the hygienic point of view, of milk as a food. 4. Outline the steps in the eradication of an epidemic of bubonic plague. 5. What are the public health duties of a physician? 6. Discuss the biologic transmission of disease, and name the diseases so spread.

Medicine

Written Examination.—Answer ten of the following questions: 1. (*a*) Discuss the etiology of aortic insufficiency as it pertains to childhood, the adult, and the patient past 50 years of age. (*b*) Describe the murmur and vascular phenomena characteristic of aortic insufficiency. (*c*) What is understood by the incomplete types of angina pectoris? 2. Give the physical and other clinical signs required as a basis for a definite or probable diagnosis of pulmonary tuberculosis in the absence of the demonstration of tubercle bacilli in the sputum. 3. (*a*) Discuss the diagnostic signs of acute appendicitis and the indications for surgical treatment. (*b*) Give the diagnostic symptoms of chronic disease of the appendix. 4. (*a*) Discuss the clinical significance of nucleated red cells in blood smears (properly stained). (*b*) Define splenic anemia, and discuss its relation to diseases of the blood. 5. (*a*) Describe the urinary findings in chronic nephritis. (*b*) Discuss the causes of death in chronic nephritis. 6. (*a*) Discuss briefly the principles which govern the diet treatment in diabetes mellitus. (*b*) What are the criteria of improvement in this condition? 7. Outline in parallel columns the differential diagnostic signs of epilepsy and hystero-epilepsy. 8. In the case of a man 48 years of age with a right motor hemiplegia which came on suddenly following a short period of unconsciousness: (*a*) Discuss the several causes of this condition. (*b*) Outline the characteristic symptoms of the above. (*c*) Discuss the prognosis. 9. In the case of a child 6 months of age affected with summer diarrhea, give the method of arriving at a diagnosis, and outline a plan of treatment for the condition. 10. Given a case of a girl 8 years of age who is suddenly taken ill with vomiting, headache and a moderate fever: a laxative is given, but the fever continues with an increase in the headache and vomiting. Twenty-four hours later a thorough action of the bowels is obtained, but the temperature is still 102.6 F., pulse 112, respiration 24. The physical signs at this time are negative with the exception of some rigidity of the neck. State how you would investigate further, and give the plan of treatment according to the results obtained. 11. (*a*) Discuss the etiology of amebic dysentery. (*b*) Outline a plan of treatment for this condition. 12. Describe the characteristic symptoms of plague.

Laboratory Examination—One Hour.—1. Specimen of urine for chemical and microscopic examination, the candidate being given one of the following specimens: (a) With albumin and casts; (b) with sugar and diacetic acid; (c) with large amount of pus. 2. Examination of slides representing the following: Plasmodium malariae, leukemia, and pernicious anemia.

A written report on each specimen was required, and a brief oral examination on the clinical condition represented by the specimen.

Clinical Examination.—This examination was held in laboratories and wards of Cook County and Presbyterian hospitals.

Bedside Examination—Two Hours.—To each candidate was assigned a patient referred to as a *long case*, and given one hour and twenty minutes for the examination of the same. A written clinical history was required, which included the physical examination, and he was expected further to ask for the laboratory tests, with other special findings required by the nature of the disease condition. During twenty minutes of the time allowed, he was examined orally on the clinical history and diagnostic conclusions.

The candidate was assigned to a second patient referred to as a *short case*, where the physical examination was made before the examiner, and he was examined in regard to the findings and the disease condition under care for a period of ten to twenty minutes. The candidate was further examined by the examiner in neurology in connection with patients presenting special neurologic conditions.

Surgery

Written Examination.—Answer five of the following questions: 1. Give symptoms, prognosis and treatment of abscess of the brain. 2. Give diagnosis and differential diagnosis of carcinoma of the lip. 3. Give diagnosis, differential diagnosis and treatment of chronic cystic mastitis. 4. Give diagnosis, differential diagnosis and treatment of strangulated inguinal hernia. 5. Give diagnosis, prognosis and treatment of fracture of upper third of femur. 6. Give diagnosis, differential diagnosis and treatment of stone in the bladder.

Laboratory Examination in Operative Surgery and Applied Anatomy: Candidates were examined in two groups; two hours for each group. (*a*) Operative test: one of the following operations on a dog: 1. Trephine; 2. tracheotomy; 3. thoracotomy; 4. nephrotomy; 5. gastrotomy; 6. tendon suture; 7. nerve suture. (*b*) *Applied Anatomy*: Examination on living models. 1. Boundaries of anticubital fossa and relations of contents. 2. Describe the triangles of the neck and their contents. 3. Position and relations of structures at ankle joint. 4. Demonstrate Nelaton's line and Bryant's triangle. 5. Course and distribution of ulnar and external popliteal nerve.

Clinical Examination.—This was held in the wards at Presbyterian and Cook County Hospitals, two hours being allowed for each candidate. During one hour a long case was examined, and a written history prepared, after which an oral was given of twenty minutes. Each candidate was also given two short cases which he could examine for fifteen minutes and then stand an examination of five minutes on each case.

Each candidate was examined thirty minutes on appropriate cases by the examiner in eye, ear, nose and throat diseases, and the same length of time by the examiner in dermatology.

Obstetrics and Gynecology

Written Examination.—1. Describe briefly the changes that take place in the fecundated ovum up to the time that segmentation is complete. 2. Discuss pernicious vomiting in pregnancy. (*a*) Etiology; (*b*) Symptoms, including urinary findings; (*c*) Treatment. 3. Describe the clinical history, mechanism of labor and the treatment of a face presentation, left mento-anterior position. 4. Discuss the pathogenesis, symptoms and differential diagnosis of acute pyelitis complicating pregnancy. 5. Bacteriology, symptoms and treatment of puerperal sepsis. 6. Causes, ordinary complications and treatment of procidentia uteri. 7. Causes, symptoms and treatment of chronic endocervicitis. 8. Causes, symptoms and treatment of vesicovaginal fistula. 9. Clinical history, diagnosis and treatment of purulent pelvic inflammation. 10. Diagnosis, prognosis and treatment of coexisting uterine fibroids and pregnancy.

Oral Examination.—During the course of the written examination each candidate was examined orally for ten minutes in clinical obstetrics.

Italian Colony for Malarial Children.—Five years ago a society was founded at Rome to care for children with malaria, and a sanatorium was equipped for them at Cosenza. The children are from the families coming to work during the season in the salt marshes. The pavilions sheltered twenty-five the first year and up to seventy-seven in 1913. The number since has somewhat declined. The children live out of doors practically all the time, and have regular school and other advantages. The sanatorium is not endowed but is supported by voluntary gifts. Its official title is the Colonia silana per bambini malarici, and the headquarters are Piazza Nicosa, Rome.

Book Notices

THE TREATMENT OF INFECTED WOUNDS. By A. Carrel and G. Dehelly. Translation by Herbert Child. With Introduction by Sir Anthony A. Bowlby, K.C.M.G., K.C.V.O., F.R.C.S., Surgeon-General, Army Medical Service. Cloth. Price, $2. Pp. 238, with 97 illustrations. New York: Paul B. Hoeber, 1917.

Shortly after the outbreak of the war, Alexis Carrel, M.D., of the Rockefeller Institute, in collaboration with H. D. Dakin, Ph.D., of the Herter Laboratories, New York, seeking to discover the best means of treating war-wound infections, adopted the *"chemiotherapeutic"* method. To be successful, it was necessary, according to their views, to choose (1) a suitable antiseptic, which, in degree of concentration used and in length of time it must be applied, would be fatal to microbes but would "not produce obvious damage to the tissue," and (2) a proper surgical technic for the antiseptic treatment of the septic wounds. Carrel and Dehelly have told the story of the evolution and practice of this Carrel-Dakin method in this book, and it has been ably translated from the French by Herbert Child.

Unfortunately the chemical phase of the treatment has received far more attention than the surgical phase, owing, in part, to the needless advertising of antiseptics under non-scientific names. For the past two years, medical literature has been flooded with accounts and descriptions of Dakin's fluid, Dakin's fluid modified, Dakin's new antiseptic (Chloramin-T), Dakin's newest antiseptic (Dichloramin-T) and Dakin's water sterilizer (Halazone), etc. Yet in all these "discoveries" the potent agent has always been active chlorin (positively charged chlorin [Cl^+]), the same substance with which the medical profession has had well tried experience when employing calcium hypochlorite (bleaching powder) and the much abused solution of chlorinated soda (Labarraque's solution). True, Dakin has introduced some more adaptable forms for utilizing the available (oxidizing) chlorin; but they are not free from objections, nor do they seem to deserve the dignity that has been accorded them. Carrel and Dehelly apparently believe that the modified Dakin's solution ("neutral solution of chlorinated soda. N. N. R.") is the agent *ad perfectum*. The details of making this solution are given in full—essentially the treatment of a solution of assayed calcium hypochlorite with calculated amounts of sodium carbonate and bicarbonate, and dilution of the resultant liquid until it has a strength of from 0.45 to 0.50 per cent. sodium hypochlorite —no more, no less. The authors uphold Dakin's claim that this solution is neutral, is isotonic with the blood, has a high bactericidal power, is very slightly toxic, that "tissues provided with a normal circulation resist perfectly the action of Dakin's solution under the conditions of our experiments," etc. In the introduction the authors, in criticizing other work, state that "proceedings of learned societies are laden with reports based for the greater part on experiments and observations, incomplete, vitiated by faulty methods." We therefore expected this book to be scientifically reliable, but our anticipations have in many instances met disappointment. The terms used, such as "chloride of lime," are archaic, and much analytic evidence is lacking. The method of assay for the available chlorin in calcium hypochlorite directs that hydrochloric acid may be employed. This will give high results because of presence of chlorate; hence it is important that acetic acid and not hydrochloric acid be used. After the solution has been prepared, Dakin devised a method of testing its "neutrality" by throwing some powdered phenolphthalein on the surface of the solution; absence of a red color, he states, shows that it is not alkaline. It is, indeed, surprising that phenolphthalein should thus be used when every student in elementary analysis is taught that it is not reliable in such conditions. Dakin's solution is *not* neutral, but is alkaline, and should be alkaline when prepared in the manner described. If to some of Dakin's solution alkali be added, and the solution then tested by phenolphthalein, it will still give the "neutral" reaction. Just what limit of alkalinity the test indicates in practice awaits to be seen. The statement is also made in this book, and considerable stress has been laid on this point by various writers, that Dakin's solution "is isotonic to blood serum." However, McClendon has recently shown that, if the directions are followed, Dakin's solution is quite hypertonic. It may be that in this connection Dakin has a point in common with the adversary of chemical antiseptics, Sir Almroth Wright. In a comparison of the superiority of Dakin's solution over solution of chlorinated soda (Labarraque's solution), no data are given as to the source or composition of the latter. After all that has been written, it is possible that again we shall witness the completion of the cycle, with Labarraque's solution (diluted) as the beginning and the end, while some such salt as sodium bicarbonate will be added for hypertonicity.

Technical surgery in the war zone has had an indefatigable worker in Alexis Carrel. That he has done wonderful work is becoming better recognized, although the credit for the work has been inadvertently hidden by the mystery of Dakin's solution. It is still debatable whether the success is due to the irrigation of the wounds by hypochlorite solutions, as he explains in this book, or to the careful study of the patient, the bactericidal control of the wound, and the constant irrigation, in other words, cleanliness—asepsis.

Despite the foregoing criticisms, the book is well worth reading by every physician interested in the treatment of wounds. The reader should consider it in a conservative frame of mind, and not allow himself to be carried away by the enthusiasm that unfortunately attaches to the introduction of every new therapeutic procedure.

Medicolegal

Death from Fasting and Water Cure

(Feige vs. State (Ark.), 194 S. W. R. 865.)

The Supreme Court of Arkansas reverses for error in the trial a conviction of defendant Feige of the crime of manslaughter, and remands the case for a new trial. The court says that one Stratton, who had been stricken with paralysis, employed the defendant to treat the disease according to a fasting and water cure which was being practiced by the latter, which required the patient to abstain totally from the use of foods, and to drink all the water possible. The defendant took Stratton through a thirty-five day fast. During the last seventy-five hours of the fast, Stratton was seized with a severe attack of hiccups, to relieve him from which the defendant placed a wide leather strap around his body and buckled it up as tight as he could draw it. Mrs. Stratton became alarmed; the defendant was discharged, and two physicians were employed. When they took charge of the patient he was in a semicoma; his pulse was weak, fast and intermittent. They gave him a hypodermic of sparteine and then treated him for hiccups and a weakened condition. He recovered from the hiccups, but never recovered from the weakened condition, and died at the expiration of five days. The evidence on the part of the state tended to show that the treatment prescribed and administered by the defendant to Stratton was irrational, unreasonable, unscientific, and the proximate cause of his death. The evidence on the part of the defendant in a measure tended to show that the fasting and water cure, as practiced by him, was rational, reasonable and scientific, and had wrought wonderful cures, and that it might have worked a cure on Stratton had he been permitted to continue the fast. The cause was submitted to the jury on the theory that one who practices medicine for a remuneration would be guilty of involuntary manslaughter if death resulted to the patient on account of gross ignorance or lack of skill in selecting and administering the remedy. The instruction embodying this idea correctly declared the law as applicable to the theory advanced by the state. None of the instructions given clearly presented the theory of the defendant. The evidence in the record warranted an instruction allowing for a mistake in judgment. The defendant was at least entitled to an instruction defining the difference between a felonious lack of knowledge and skill, on the one hand, and a mere mistake of judgment, on the other. In other

words, the jury should not have been left in a position to confuse a mistake of judgment with gross ignorance or lack of skill. The defendant asked, and was refused, the following instruction which correctly presented the law applicable to the theory advanced by him, and to which he was entitled on the whole record: "Involuntary manslaughter is the involuntary killing done without design, intention, or purpose of killing, but in the commission of some unlawful act, or in the improper performance of some lawful act. For a mere mistake of judgment in the selection and application of remedies resulting in the death of his patient, a physician is not criminally liable; and whether one who assumes to practice medicine is grossly ignorant of the art or the selection of remedies or their application, or inapplicable or rashly applied, are all questions to be determined by the evidence." It was also insisted that an error was committed because the prosecuting attorney referred to the fact that the defendant did not have a license to practice medicine. The trial court indicated that it was an improper argument, as that issue was not involved in the case. It is unnecessary for the supreme court to comment on it, as the prosecuting attorney will not likely repeat the statement on a new trial. There was no error in a refusal to permit the defendant to read excerpts to the jury from a book entitled "McFadden's Physical Culture."

Not Bound to Follow Patient and Be Liable for Care of Wound

(Miles vs. Harris, (Tex.), 194 S. W. R. 839.)

The Court of Civil Appeals of Texas affirms a judgment rendered in favor of the defendant, and denies the plaintiff a rehearing, in this action for alleged negligence in letting a gauze packing remain in the body of the plaintiff's wife, on whom the defendant performed an operation in the abdominal region. The court says the defendant's evidence was to the effect that he performed the operation in the usual way; that the insertion of the gauze pack was necessary; that several days after the operation he attempted to remove the gauze pack, but the removal created or again started a dangerous flow of blood, which, under such circumstances as shown by the testimony, made it necessary to desist; that the plaintiff removed his wife from the defendant's sanatorium without the defendant's consent, and over his objection, during his temporary absence. The defendant and the attendant physician and nurse all testified to this fact, and further that the plaintiff was then informed that the pack had not been removed, because of which, and because of the presence of fever, it would be dangerous to remove the patient. The evidence further seemed uncontradicted that the family physician knew the gauze had been placed in the wound, and that, on the return of the plaintiff's wife to her home, he suspected its presence, but relied wholly on the assurance of the plaintiff and his wife that it had been abstracted. That there was evidence in behalf of the plaintiff of contrary import on one or more of the submitted issues could not alter the conclusion. Such evidence merely presented a conflict, which it was the function of the jury to determine. Under such circumstances and under the findings of the jury, the court knows of no rule that made it the duty of the defendant to follow the patient and be further liable for the due care of her wound. Again, the court says that it would seem that about the only material issue necessary for submission was the issue of whether the defendant was guilty of negligence which directly and proximately caused the gauze pack to remain in the person of the plaintiff's wife longer than it should have remained therein. That the defendant may, as the plaintiff insisted, have failed to remove the gauze in time; may have permitted the abdominal wound to heal without its removal; may have failed to inform the plaintiff or his wife of its presence in the body of Mrs. Miles at and before her removal from the sanatorium; that the defendant may have failed to advise the family physician that the gauze had not been removed—all seemed to constitute circumstances merely from which to infer negligence which resulted in the gauze remaining in the person of Mrs. Miles longer than it should. They were not, as it seems to the court, issues of themselves, but constituted mere evidences of the main fact to be proved, and hence it was not necessary to submit them to the jury in the form of special issues. If the defendant was not guilty of negligence in permitting the gauze pack to remain in the person of Mrs. Miles, as the jury found, it could not be material in this case that she suffered from that cause, for in such case the defendant at least could not be legally bound to respond in damages.

Society Proceedings

COMING MEETINGS

Amer. Public Health Association, Washington, D. C., Dec. 4-7.
Southern Medical Association, Memphis, November 12-15.

INTERSTATE ASSOCIATION OF ANESTHETISTS

Meeting held at Toledo, Ohio, Oct. 9-11, 1917

The President, Dr. Isabella C. Herb, Chicago, in the Chair

Nitrous Oxid-Oxygen Anesthesia

Dr. Charles W. Moots, Toledo, Ohio: Any operation of modern surgery can be satisfactorily performed under gas-oxygen anesthesia alone, without even the adjunct of local infiltration with novocain. Team work involves complete cooperation of the entire surgical force during the preoperative, operative and postoperative periods. Accurate diagnosis, painstaking preparation, sedatives, alkalinization, a preliminary narcotic and cheerful environment suffice to bring the patient to the operating room in the best possible condition for operation and anesthesia. The extreme Trendelenburg posture is never permitted, and any other changes of position are gradually made. The velvet touch and thorough saturation with the anesthetic give sufficient relaxation for any abdominal work. Experience shows that nothing serious happens to a patient on the table without showing circulatory changes. Therefore my expert anesthetists keep me continually informed regarding systolic, diastolic and pulse pressure, along with the pulse rate and the respiratory rate and volume. The character of the respirations is of great importance, especially in hazardous risks.

Further Researches in Blood Changes Under Nitrous Oxid-Oxygen Anesthesia

Dr. Theodore D. Casto, Philadelphia: In a previous paper I reported that nitrous oxid-oxygen anesthesia in man gives rise to a decrease in the erythrocytes, and that thirty or forty minutes after anesthesia there is a tendency for the count of erythrocytes to return to the normal value determined prior to anesthesia. My present communication includes, besides cellular alterations, a consideration of the influence of nitrous oxid-oxygen anesthesia on the degree of alkalinity of the blood. Albino rats were used for experimental purposes. Marriott's method of determining the hydrogen ion concentration, to determine the alkaline reserve, was used. Anesthesia was continued from thirty to sixty minutes. After definite periods of anesthesia, the animals were killed by quick decapitation, and blood counts and hydrogen ion concentration tests made. In the blood counts of twenty-one animals, the erythrocytes showed a difference of 4.8 millions per cubic millimeter between the highest and the lowest counts. The erythrocytes were decreased after gas-oxygen anesthesia for from thirty to sixty minutes, the maximum decrease being 70 and the minimum 1 per cent., with an average of 25 per cent. Macrocytes and microcytes were present in a few cases, but no poikilocytes or nucleated cells. Reaction to staining was slightly diminished in the erythrocytes in a few animals. The leukocyte count revealed an increase in eight experiments and a decrease in twelve. A study of the different varieties of leukocytes, however, showed a marked tendency on the part of the polymorphonuclear lymphocytes to increase. Of the twenty animals studied, eighteen gave a decrease in polymorphonuclear neutrophils, varying from 1 to 75 per cent., and sixteen of the animals gave an increase in lymphocytes varying from 5 to 23 per cent. The transitional eosinophils showed no change of spe-

cial interest. There was no constant change in the segmentation of the polymorphonuclear neutrophils.

Liquid Air and Electrolytic Oxygen for Anesthetic Purposes

DR. C. C. MCLEAN, Dayton, Ohio: The increasing demand for oxygen in medical work makes it imperative to secure a pure and cheap supply of oxygen. Commercial oxygen for the welding process is now produced by the atmospheric or electrolytic methods. Medicinal oxygen is produced chemically. Chemical oxygen must have its poisonous chlorin residue eliminated. In neither the liquid air nor electrolytic process is chlorin contamination a problem. The impurity in electrolytic oxygen is hydrogen, the impurity in liquid air oxygen is nitrogen, both inert gases, and so far as is known, harmless in the quantities in which they are found. Provided the commercial oxygen is prepared for medicinal purposes and stored in cylinders not previously contaminated by poisonous gases, it may be utilized without danger. The following standards of purity are recommended: The gas should be neutral to moist litmus paper, and when passed through an aqueous solution of silver nitrate it should produce no turbidity. Not more than an opalescence should be produced when 2 liters of the gas are passed slowly through an aqueous solution of barium hydroxid. When 5 liters of gas are passed slowly through an aqueous solution of sodium hydroxid, then over heated copper oxid and finally through an aqueous solution of barium hydroxid, no turbidity should be produced. The gas should contain at least 94 per cent. of oxygen on the dry basis, and should contain no liquids and no solids.

Lung Complications Following Operations Under Anesthesia

DR. E. I. MCKESSON, Toledo, Ohio: In a compiled series of 39,438 operations under all forms of anesthesia, lung complications followed in 3.03 per cent. of the cases in which figures are available. There was a total mortality of 1.06 per cent. Of these lung complications, 48 per cent. were pneumonia; and of the pneumonia cases, 48 per cent. were fatal. In one of the series of cases, 70 per cent. of the lung complications occurred in the five winter months. In attempting to reduce the incidence of postoperative lung complications, it is essential to maintain the temperature of the operating room at 80 F., to use a thick, warm, comfortable mattress on the operating table; to avoid careless operating, and to prevent the patient from sweating. It is equally as important to institute prophylactic measures of oral hygiene previous to operation, and for the anesthetists to use such methods of narcosis and technic as maintain an open airway, preclude the hypersecretion of mucus, and obviate the inspiration of blood or septic material. After operation, patients should be returned to a warm bed, should be protected from drafts, and should be permitted their customary weight of underwear. Etherization should be avoided in all cases in which it is contraindicated. Tight binders should be eliminated, sufficient opiate should be given to relieve pain, and full breathing should be encouraged. The position of the patient in bed should be changed frequently during the first week.

Some Observations on the Causes of Postoperative Nephritis

DR. KARL R. RUDDELL, Indianapolis: These observations are the result of a critical study of about 500 cases to determine the relative importance of ether anesthesia and focal infection in the causation of postoperative nephritis. In the series, 59.3 per cent. examined before operation showed evidence of an existing nephritis; 5.6 per cent. showed albumin alone; 0.7 per cent. showed albumin and pus cells, and 17 per cent. showed albumin, pus cells and casts. In the postoperative urines, 64 per cent. gave evidence of kidney involvement, an increase of 4.7 per cent. The majority showing postoperative kidney disturbance, in which the preoperative urines were normal, proved to be simple cases of albuminuria which subsided in a few days. Postoperative nephritis, in my opinion, is produced by a combination of causes, among which are the existence of a kidney already crippled by infection; an increase in waste products to be eleminated, incident to operative trauma, and possibly the dissolution of lipoids; a decrease in the liquid output due to a diminution in the ingestion of liquids, and an increased loss of fluids through the skin, lungs and intestinal tract; a lessening of its eliminative power by a lowered blood pressure in the kidney itself; a lowering of the power of resistance of the body by loss of heat due to prolonged anesthesia and shock; and lastly, the filtering of bacteria and their toxins, thrown directly into the blood and lymph streams from focal areas of infection. Ether plays a very insignificant rôle in the production of postoperative nephritis.

Comparative Dangers and Availability of Nitrous Oxid-Oxygen Anesthesia

DR. J. R. MCCURDY, Pittsburgh: While the anesthetic statistics collected by A. H. Miller give nitrous oxid-oxygen anesthesia the lowest mortality, it is interesting to note that deaths under this anesthetic are becoming more frequent as it comes into more general use. These fatalities can almost invariably be traced to incompetent or inexperienced administrators, extrahazardous risks, or the pushing of the anesthetic beyond safe limitations to accommodate the demands of the operator for greater relaxation. In the hands of experts, nitrous oxid-oxygen anesthesia is establishing itself as the safest anesthetic. Its chief danger is asphyxia, and this untoward complication can be almost instantly corrected by the proper admixture of oxygen. Its effects on the respiratory system are minimal, and it can be used to advantage in the presence of all pulmonary complications. It does not lower body resistance or disturb metabolism, and its administration is singularly free from postoperative pulmonary complications. Even uncompensated heart lesions may be safely handled, and lengthy administrations do not show the cardiac collapse incident to ether depression following its initial stimulation. Of all anesthetics, it affects blood pressure the least, and contrary to the usual opinion, it is not contraindicated by preexisting hypertension.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

October, LXXVI, No. 4

1 Study of Chloroform, Ether and Nitrous Oxid-Oxygen in Pregnancy and Labor. C. H. Davis, Chicago.—p. 557.
2 Nitrous-Oxid Analgesia in Four Hundred and Seventy-Six Cases of Obstetrics. W. C. Danforth, Evanston, Ill.—p. 563.
3 *Statistical Study of Causes of Abortion. G. D. Royston, St. Louis.—p. 571.
4 Case of Double Obliquely Contracted Pelvis (Roberts), Associated with Acute Lumbar Lordosis Due to Infantile Paralysis in Early Childhood. E. M. Lazard, Los Angeles.—p. 585.
5 *Simple Method of Performing Extraperitoneal Cesarean Section. T. H. Cherry, New York.—p. 590.
6 Case of Cesarean Section in Primipara Followed in Next Pregnancy by Normal Delivery. F. Warner, Columbus, Ohio.—p. 598.
7 Puerperal Septicemia. W. Krusen, Philadelphia.—p. 605.
8 Injuries at Birth, Premature Births and Stillbirths. C. S. Miller, Philadelphia.—p. 615.
9 Obstetric Problems and Coroner's Office. W. S. Wadsworth, Philadelphia.—p. 622.
10 Prenatal Care. F. C. Child, Philadelphia.—p. 631.
11 Maternity Insurance. L. Lehrfeld, Philadelphia.—p. 636.
12 Case of Acute Inversion of Uterus Following Parturition. J. M. Griffin, Warrensburg, N. Y.—p. 639.
13 Ductless Glands in Gynecology. S. W. Bandler, New York.—p. 644.

3. **Study of Causes of Abortion.**—During the four and a half months of Royston's investigation 563 patients were examined. Among these 563 a history of abortion was elicited in 178. Of these, 164 were subjected to detailed study. The 164 patients selected had a grand total of 664 pregnancies, 348 of which ended in abortion. Criminal abortion was the most common factor in the series. Fifty-one out of 164 women confessed to an induced labor. Many of these women had the performance repeated a number of times. These 51

women had in all 220 pregnancies of which more than half, namely 118 (52.4 per cent.) resulted in abortion. Of these 118, 84 (71.1 per cent.) were frankly acknowledged to have been induced. Comparing the percentage of induced abortions with the abortions in his entire material, Royston arrived at the figure 23.8 per cent. Only twenty (39.2 per cent.) produced living children after having had abortions induced. Only 10 out of the 51 patients had normal genital organs; the remaining 41 were more or less permanently disabled. Among the 164 cases, 46 gave a positive Wassermann and 5 patients with definite histories gave negative reactions after having been treated. Three additional patients showed lesions of the disease, though with negative histories and negative Wassermann reactions. These latter three had taken no specific treatment and were possibly cases of latent syphilis. Excluding these three mentioned, 51 patients were undoubtedly syphilitic. Only 12 of the 51 patients with syphilis gave a history, or showed any lesions of the disease. This means that between one-fourth and one-third of Royston's entire material was syphilitic; it shows that 34 out of 46 (73.9 per cent.) had latent syphilis. Among 51 patients, there were 186 pregnancies, 115 (61.8 per cent.) of which ended in abortion. Before syphilitic infection occurred, 3.8 per cent. aborted as compared with 78 per cent. after infection. In cases in which 48.8 per cent. survivors were born before, only 5.2 per cent. survived after syphilitic infection. Abortions are caused by syphilis much more frequently than the medical public realizes. Royston suggests that any patient who gives a history of one or more previous abortions had best be considered a victim of syphilis until incontrovertible proof to the contrary is obtained. Any other general disease of the mother may produce an abortion provided it is severe enough to affect the fetus or the placenta through changes in the maternal circulation. Of such there were 40 among the 164.

5. **New Method of Extraperitoneal Cesarean Section.**—The procedure employed by Cherry is very similar to the Hirst method. The patient is prepared as for any abdominal section, incision in the median line is made from the symphysis to the umbilicus through skin, fat and fascia of the recti. The muscles are separated by blunt dissection exposing the transversalis fascia and peritoneum. At this stage the edges of the muscle are bluntly dissected off the peritoneum for a slight distance until the deep epigastric vessels are seen, which allows for freer play of the peritoneum. The peritoneum is opened vertically, and the cut edges of the parietal peritoneum are then sutured to the visceral peritoneum in such a manner that an oval area about 5 inches long and 3½ inches wide in the lower uterine segment is left exposed, care being taken to interrupt and tie this continuous suture at several points to prevent it acting as a purse string. This procedure shuts out the general peritoneal cavity. The thin lower uterine segment is then incised in the median line for 4½ inches and the blades of the obstetrical forceps are introduced to the sides of the fetal head, and the child extracted. The placenta and membranes are then delivered. One cubic centimeter of pituitary extract is given intramuscularly at this stage followed immediately by 30 minims of ergotol. The uterine wound is then closed by interrupted chromic gut sutures; a continuous seromuscular suture is made over this line of sutures and the sutured edges of parietal and visceral peritoneum are sutured together. The rest of the wound is closed in the usual manner without drainage.

Arkansas Medical Society Journal, Little Rock

October, XIV, No. 5

14 Acidosis. B. C. Middleton, Texarkana.—p. 97.
15 Postgripal Otitis Media. J. L. Jones, Searcy.—p. 101.
16 Biography of Gallstone. E. D. Holland, Hot Springs.—p. 104.
17 Local Magnesium Sulphate Treatment of Acute Salpingitis. J. W. Butt, Helena.—p. 105.

Bulletin of Johns Hopkins Hospital, Baltimore

October, XXVIII, No. 320

18 *Effects of Serum Therapy in Acute Lobar Pneumonia. A. Bloomfield, Baltimore.—p. 301.
19 *Study of Incidence of Types of Pneumococci Isolated from Acute Lobar Pneumonia and Other Infections. M. C. Clough, Baltimore.—p. 306.
20 Epidemiologic Study of Lobar Pneumonia. V. P. W. Sydenstricker and A. C. Sutton, Baltimore.—p. 312.
21 *Study of Bacteremia in Lobar Pneumonia. A. C. Sutton and C. E. Sevier, Baltimore.—p. 315.
22 Mechanism of Convulsive Phenomena and Allied Symptoms. C. M. Campbell.—p. 318.
23 Fasciolopsinae of China: Study of Two Species from Chekiang Province. N. W. Brown, Baltimore.—p. 322.

18. **Serum Therapy in Acute Lobar Pneumonia.**—Eleven cases are reported on by Bloomfield. They were all instances of frank lobar pneumonia, in which the Type I pneumococcus was demonstrated in the sputum or blood. Nearly all the patients came in with the disease well advanced—thus presenting conditions unfavorable to treatment. In addition to the serum, hydrotherapy, digitalis, and symptomatic measures were employed. The pneumococcus was usually isolated from the sputum by mouse inoculation, and the type determined by agglutination with stock immune serums. The serum was warmed to body temperature and injected intravenously by gravity, at the rate of 2 to 4 c.c. a minute. A preliminary desensitizing dose of 1 to 5 c.c. was given subcutaneously or intravenously. Blood cultures were made before and after treatments, and samples of blood were drawn for the agglutination tests. In five of the cases pneumococci were present in the blood before treatment was begun. In four of these the blood promptly became sterile after the injection of the serum, although in one case there was a terminal sepsis after fourteen days. In another case the one injection reduced the colonies from 900 to 25 per cubic centimeter, but did not prevent death; one patient died without any reappearance of the organisms in the blood. In six cases no organisms were present on admission, and the blood remained sterile throughout. All these patients recovered. The serum is, therefore, clearly an effective agent in sterilizing the blood, and in preventing the development of septicemia. The agglutinins were studied in eight of the cases. There was a striking variation in the titer of various patients' serums even after injection of the same amount of serum. The titer of the patient's serum following therapy bore no constant relation to the outcome of the case. Therefore, it is not a guide to the efficacy of treatment. There was no striking change in the clinical course of the cases which could clearly be attributed to the serum. This series throws little light on the curative value of the serum.

19. **Types of Pneumococci Isolated from Acute Lobar Pneumonia.**—In all, 121 strains of pneumococci were isolated by Clough and the groups determined. The percentage incidence of Groups I (35.2), III (14.8) and IV (25.9) in the lobar pneumonias in adults corresponds very closely to figures obtained at the Rockefeller Institute in their pneumonias. The striking feature in this series is the relatively very low percentage of typical Group II pneumococci (5.5) and the correspondingly high percentage of atypical Group II strains (16.7). The small series (13) of lobar pneumonias in children showed a slightly lower incidence of Groups I (30.8) and III (0.0) with a correspondingly higher incidence of Groups IV (30.8) and Atypical II (23.1) as compared with the lobar pneumonias of adults. If, however, the empyemas in children are added to the pneumonias and the percentage of these sums calculated, the incidence of Groups I and II becomes slightly higher than in the pneumonias in adults. This discrepancy is explained in two ways. In the first place, only lung puncture material was used for the cultures in this series, while most of the cultures obtained by the other authors were from sputum. In the second place, all the cases in the series were lobar pneumonias, while other authors included bronchopneumonias with lobar pneumonias in their statistics. Of the atypical Group II pneumococci isolated from lobar pneumonias (23.1) in children and from empyemas (14.3) three out of the six belonged to Subgroup II B.

A Group I pneumococcus was isolated from one out of ten cases of bronchopneumonia. The other cases were due to Types III, IV and Atypical II in about equal percentages. An interesting case in which a Group I was isolated from an otitis media and from mouth sputum gave a history of a mild pneumonia following "grippe" nine months previously, and presumably had been a carrier throughout this period. The

total mortality of the series was high (50 per cent.). In all of eight cases due to the pneumococcus mucosus the patients died. The mortality of the Group IV cases was relatively very high (57.2 per cent.). The explanation is probably the greater average age of the cases of this group (46.5 years), and the very high percentage of associated diseases in these cases (71.4 per cent.), as compared with 26.3 per cent., 33.3 per cent., and 25 per cent. in the fixed types. Marked alcoholism is included as an associated disease on account of the large part which it seems to play in the incidence and mortality of pneumonia. The same explanation is offered for the mortality of the pneumonias due to Atypical II strains (60 per cent.), which is higher than one would expect with organisms which are usually relatively avirulent. Several terminal pneumonias and one postoperative pneumonia were included in this study, all of which were due to Type IV or Atypical II organisms.

21. **Bacteremia in Lobar Pneumonia.**—Sutton and Sevier endeavored to determine the course of the sepsis in cases with positive blood cultures, to see whether this varied according to the type of infecting organism, and finally to determine the relation of the bacteremia to prognosis. Of the entire series of sixty-six cases only three patients died whose blood cultures were persistently negative. No patient recovered who had, at any time of the disease, over 5 colonies per cubic centimeter of blood, whether he received specific therapy or not, with the exception of one patient who had 20 colonies per cubic centimeter on admission, and a severe alcoholic delirium. This patient, however, received a serum within a few hours of admission, and subsequent doses until after his temperature had become normal. All the deaths excepting that of the patient showing a negative blood culture, occurred in the four months between December 8 and April 8, although sixteen cases occurred before or after this period. This is also the period within which all the positive cultures were obtained. Do the fixed types vary in virulence throughout the year, or does the severity of the initial exposure during the period of maximal changes in weather predispose to the type of pneumonia that runs its course with a septicemia? In general, the incidence of septicemia runs parallel with the mortality. If the cases with a transient sepsis, having only an occasional colony early in the disease, are omitted, the percentages of positive blood cultures and mortality are practically identical. As regards prognosis, the authors have found blood cultures the most valuable aid. Of the patients with persistently negative blood cultures 93 per cent. recovered without any complications. Of the patients with positive cultures, all with over 5 colonies per cubic centimeter at any period of the disease died, except one with 20 colonies on admission, who received serum therapy.

Boston Medical and Surgical Journal

October 18, CLXXVII, No. '16

24 Progress in Tuberculosis; A Collective Abstract of Important Articles Published During 1916. J. B. Hawes, 2d, and P. C. Bartlett, Boston.—p. 537.
25 Rationale of Neurasthenia and of Disturbances of Arterial Tension. G. E. Barnes, Herkimer, N. Y.—p. 543.
26 Intestinal Stasis. M. H. Wentworth, Concord.—p. 548.
27 Cases of Dislocations of Shoulder, with Complications. F. F. Henderson, Boston.—p. 550.
28 Etiology and Pathology of Perforating Gastric and Duodenal Ulcers. F. W. White, Boston.—p. 555.
29 *Use of Emanuel-Cutting Mastiche Test in Examining Spinal Fluid from Psychopathic Subjects. C. E. Smith and L. G. Lowrey, Boston.—p. 557.
30 Botulismus; Report of Two Fatal Cases. R. Bine, San Francisco. —p. 559.
31 Long Umbilical Cord, Causing Three Loops Around Neck. M. J. Konikow, Boston.—p. 560.
32 Thoracopagus; Unusual Cause of Dystocia; Report of Case. S. Cline, Boston.—p. 561.

29. **Emanuel-Cutting Mastiche Test on Spinal Fluid.**—The authors tested the fluids from 268 patients. Of these, seventy-four fall into the general group of syphilis of the nervous system, the majority of the remainder being nonsyphilitic psychopaths and nonpsychopaths, with the addition of three cases of acute meningitis. In all cases the following tests were made: Wassermann test in blood and spinal fluid; albumin, globulin, cell count and colloidal gold tests, in spinal fluid. Smith and Lowrey are of the opinion that the mastiche test, as modified by Cutting, has a distinct place in the clinical laboratory. Because of the ease and accuracy of examination it may well be used to determine in which cases the more complicated gold test should be made. Their experience indicates that the test does not differentiate between syphilis and acute meningitis; hence the chances are that the reactions in tubercular meningitis and tumors will not be differential. It has a place in the examination of spinal fluids, especially where large numbers of spinal fluids are examined. In all cases showing clouding with mastiche, a gold reaction should be performed as a final check.

Cleveland Medical Journal

October, XVI, No. 10

33 Treatment of Tuberculosis of Spine. G. I. Bauman, Cleveland. —p. 657.
34 Treatment of Syphilis in Army. H. N. Cole, Cleveland.—p. 662.
35 New Apparatus for Collection of Urine in Female Infants. H. O. Ruh, Cleveland.—p. 666.
36 Management and Technic of Spinal Cord Operations. M. E. Blahd, Cleveland.—p. 668.
37 Persian System of Water Abuse. R. E. Hoffman, Meshed, Persia. —p. 672.

Journal of Biological Chemistry, Baltimore

October, XXXII, No. 1

38 Creatinuria in Women. M. S. Rose, New York.—p. 1.
39 Metabolism of Fats. Utilization of Palmitic Acid, Glyceryl Palmitate and Ethyl Palmitate by Dog. J. F. Lyman, New Haven, Conn.—p. 7.
40 Id. Effect of Feeding Free Palmitic Acid, Glyceryl Palmitate, and Ethyl Palmitate on Depot Fat in White Rat. J. F. Lyman, New Haven, Conn.—p. 13.
41 Determination of Fecal Indole. O. Bergeim, Urbana, Ill.—p. 17.
42 Some Aspects of Temperature Coefficients of Life Processes. W. J. V. Osterhout, Cambridge, Mass.—p. 23.
43 *Biologic Analysis of Pellagra Producing Diets. Dietary Properties of Mixtures of Maize Kernel and Bean. E. V. McCollum and and N. Simmonds, Madison, Wis.—p. 29.
44 *Uric Acid Content of Maternal and Fetal Blood. J. M. Slemons and L. J. Bogert, New Haven, Conn.—p. 63.
45 *Schneyer Method for Determination of Lactic Acid in Urine. M. E. Maver, Chicago.—p. 71.
46 *Studies of Food Utilization. Utilization of Carbohydrate on Relatively High and Low Cereal Diets. Z. Zentmire and C. C. Fowler, Ames, Iowa.—p. 77.
47 Methods for Approximating Relative Toxicity of Cottonseed Products. F. E. Carruth, West Raleigh, N. C.—p. 87.
48 *Nutritive Value of Soy Bean. A. L. Daniels and N. B. Nichols, Madison, Wis.—p. 91.
49 Influence of Food and Temperature on Duration of Life. J. Loeb and J. H. Northrop, New York.—p. 103.
50 Effect of Prolongation of Period of Growth on Total Duration of Life. J. H. Northrop, New York.—p. 133.
51 *Existence of Gastric Lipase. M. Hull and R. W. Keeton, Chicago. —p. 127.

43. **Pellagra Producing Diets.**—According to McCollum and Simmonds two practices make for safety in human nutrition in those districts where the water is low in sodium and calcium. These are, first, the consumption of milk as a regular article of diet, and second, the use of the leaves of plants as human food. Milk is always high in calcium and, as a rule, contains a far greater amount of sodium chlorid than do any of the seeds. The same is true of the leaves of plants. It is highly probable that meats do not make good the mineral deficiencies of a diet derived principally from seeds. The authors emphasize the importance of using milk as a regular constituent of the human diet and also the great benefit which would result from a more extensive use of the leaves of plants as a stable article of the diet. There is grave danger in deriving nearly the whole food supply from the seeds of plants.

44. **Uric Acid in Blood.**—Slemons and Bogert found that the uric acid content of the blood during uncomplicated pregnancy falls within the limits accepted as normal at other times (2 to 5 mg. per 100 c.c. of blood). Larger values were found in cases of syphilis, pyelitis and the toxemias of pregnancy. At the conclusion of labor higher values usually prevail in primiparous than in multiparous women. This may be explained by the longer duration and the more energetic character of the labor in the case of the first birth. In several cases an increased uric acid content of the blood after labor was demonstrated. Equivalent values for the uric acid in the blood of mother and fetus indicate that uric acid passes through the placenta by diffusion. As a rule, the uric

acid of the blood is notably increased in cases of eclampsia and also of nephritis during pregnancy; consequently, these clinical complications may not be distinguished by estimation of the blood uric acid.

45. **Lactic Acid in Urine.**—Maver maintains that while the method of Schneyer is of unquestionable value in indicating the excretion of substances belonging to a group capable of yielding carbon monoxid, it cannot be applied to the quantitative determination of lactic acid in the urine.

46. **Utilization of Carbohydrate on High and Low Cereal Diets.**—Experiments reported on by Zentmire and Fowler show that the utilization of total carbohydrates of a diet consisting largely of cereal is above 99 per cent. The carbohydrate is as completely utilized with one quantity as another of cereal in the diet, even when the cereal is taken in larger amounts than are found in the average dietary. Assuming that sucrose and lactose are completely digested and absorbed, the utilization of the cereal carbohydrate is still high (97.7 to 99.0 per cent.). Assuming that sucrose is completely utilized, the starch of the starch diets is utilized to the extent of over 98 per cent. Monotony and unpalatability of diet have little or no effect on the ultimate utilization.

48. **Nutritive Value of Soy Bean.**—An economic consideration of the yellow soy bean leads to the conclusion that it is one of the most valuable of the leguminous seeds. It contains a high percentage of a physiologically good protein, a considerable amount of energy yielding material in the form of fat and carbohydrate, and a fairly liberal supply of the fat-soluble food accessory, as well as of the water-soluble growth determinant. The animals fed rations containing 15.6 and 18.7 per cent. of protein obtained solely from the soy bean have grown normally and in the latter case have produced successive litters of young, which in turn have reproduced, is sufficient evidence that the protein of the soy bean fulfills all physiologic requirements. The protein of the soy bean appears to be quite as valuable as the casein of milk. In order to make the soy bean a more nearly complete food, suitable inorganic material, consisting principally of sodium chlorid and calcium compounds, needs to be added.

51. **Existence of Gastric Lipase.**—The occurrence of gastric lipase was studied by Hull and Keeton in pure juice obtained from dogs with Pawlow stomachs and those with pylorus ligated. The secretion was excited by gastrin bodies and food. It was found that the fasting and acid-free juice always contains an appreciable concentration of lipase. The lipase is quite sensitive to acid and alkali, being almost completely destroyed by a fifteen minute exposure to 0.2 per cent. hydrochloric acid. The enzyme may be recovered from the stomach showing low acid secretion by neutralizing the juice immediately; and from stomachs in high secretory activity, if the acid be reduced by the addition of protein, such as peptone. In a series of trials 1 c.c. of fasting juice gave a fat splitting of 28.2 per cent. by the Volhard method and 22.05 per cent. by the Stade modification. The concentration of the enzyme in the gastric juice is five or six times that in the succus entericus and the blood serum. The view that the lipase is a true gastric secretory product is discussed and favored. The probable practical importance of the lipase in stomach digestion is emphasized.

Indiana State Medical Association Journal, Fort Wayne

October, X, No. 10

52 Coagulen (Kocher-Fonio); Successful Experiences in Eight Cases. H. K. Bonn, Indianapolis.—p. 385.
53 Cataract and Its Management. W. F. Hughes, Indianapolis.—p. 390.

Journal of Parasitology, Urbana, Ill.

September, IV, No. 1

54 Structure and Classification of North American Parasitic Worms. H. B. Ward, Urbana.—p. 1.
55 Sporozoon Parasites of Fishes of Woods Hole and Vicinity. On Chloromyxum Clupeidae of Clupea Harengus (Young), Pomolobus Pseudoharengus (Young), and P. Aestivalis (Young). C. W. Hahn.—p. 13.
56 *Endameba Buccalis. Its Reactions and Food Taking. N. Nowlin, Lawrence, Kan.—p. 21.
57 Central Nervous System of Parasitic Isopod, Grapsicephon. W. A. Hilton, Claremont, Calif.—p. 25.
58 Value of Nitrobenzol as Parasiticide with Its Use in Collecting External Parasites. W. L. Chandler.—p. 27.
59 Morphologic Study of Bothriocephalid Cestodes from Fishes. A. R. Cooper, Urbana.—p. 33.
60 Systematic Position of Two Known Species of Gregarines. M. W. Kamm, Urbana.—p. 40.
61 First Case of Leishmaniosis Cutanea in Venezuela. J. Iturbe and E. Gonzalez.—p. 444.

56. **Endameba Buccalis.**—The material for this present paper was collected by Nowlin from a single host and a single point of infection, an upper premolar tooth. Nowlin concludes from observations that *Endameba buccalis* absorbes its food mainly, taking in by osmosis the fluids of leukocytes or other mediums on which it rests, stores these colloidal substances in vacuoles, and by secretion of its own enzymes assimilates these as needed. This method of food getting by absorption would explain the shrinkage of gums where *Endameba buccalis* is present. There is abundant evidence that they draw supplies by applying themselves to the surface of tissues and by crowding between them.

Kansas Medical Society Journal, Topeka

October, XVII, No. 10

62 Treatment of War Wounds and Sepsis. A. B. Jeffrey, Topeka.—p. 265.
63 Cholecystectomy vs. Cholecystostomy. G. M. Gray, Kansas City.—p. 274.
64 Action and Use of Sodium Chlorid. J. S. Sutcliff, Iola.—p. 277.
65 County Hospital. J. L. Morehead, Neodesha.—p. 279.

Medical Record, New York

October 20, XCII, No. 16

66 Army Medical Museums. R. W. Shufeldt, Washington, D. C.—p. 663.
67 Alcohol and Therapeutics. E. H. Williams, Los Angeles.—p. 666.
68 Nasal Insufflations in Diagnosis, Prognosis and Treatment of Tuberculosis. O. Paget, Freemantle, West Australia.—p. 668.
69 Two Cases of Multiple Keloids. J. E. Lopez-Silvero, Havana, Cuba.—p. 673.
70 Mastic Reaction on Cerebrospinal Fluid. E. R. Smith, Ann Arbor, Mich.—p. 675.
71 Wassermann Reaction and Pulmonary Tuberculosis. J. S. Ford, Loomis.—p. 678.
72 Operations for Harelip and Cleft Palate. W. C. Gewin, Birmingham, Ala.—p. 679.
73 Cosmetically Perfect, Bloodless Circumcision. H. J. Millstone, Chicago.—p. 680.
74 Cannula for Use with Carrel Method. E. E. Endicott, Jackson, Calif.—p. 682.

Mental Hygiene, Concord, N. H.

July, I, No. 3

75 Mobilizing Brains of Nation. S. Paton, Princeton, N. J.—p. 334.
76 *Care of Disabled Returned Soldiers. P. Bailey, New York.—p. 345.
77 Use of Institutions for Insane as Military Hospitals. T. W. Salmon, New York.—p. 354.
78 Broader Psychiatry and War. H. M. Adler, Chicago.—p. 364.
79 *Relation of Psychology to Military Activities. R. M. Yerkes, Boston.—p. 371.
80 State Hospital and War. W. A. White, Washington, D. C.—p. 377.
81 *Some of Nervous and Mental Conditions Arising in Present War. E. M. Auer, France.—p. 383.
82 *Problem of Mental Disease in Canadian Army. C. B. Farrar, Ottawa.—p. 389.
83 Some Experiences in German Red Cross. C. A. Neymann, Baltimore.—p. 392.
84 Effects of High Explosives on Central Nervous System. E. E. Southard, Boston.—p. 397.
85 Mental Disease, Suicides and Homicides in United States Army and Navy, 1897-1915. E. M. Furbush.—p. 406.
86 Neuropsychiatry and War. M. W. Brown and F. E. Williams.—p. 409.

76. **Care of Disabled Returned Soldiers.**—In addition to general medical and surgical hospitals, Bailey's plans include convalescent homes for those enfeebled rather than disabled, sanatorium for consumptives and colonies of various kinds at which outdoor work can be taken up little by little. Vocational training is an important part of the scheme, especially for those whose disability forces them to find a different occupation than the one they had before entering the army. This feature involves questions concerning the soldier's personality, and also has associated with it such perplexing questions as the rating of pensions, attitude of trade unions, state versus federal supervision, etc. The nervous casualties require a high degree of differentiation in their treatment.

The insane should be carefully segregated from those whose mental disturbances are susceptible of more prompt recovery; the hysterics should be kept by themselves, and special education centers will be found necessary for the care of the disorders of speech and hearing so frequent in this war. The final feature in Bailey's plan is the creation of federal and state boards of reemployment, which shall meet the returned soldier at all points of discharge and facilitate his return to self-support and independence in the civil community.

79. **Psychology and Military Activities.**—Yerkes suggests that psychologists can render service to the nation by discovering and indicating in practical ways the relations of human characteristics to special tasks.

81. **Nervous Conditions Arising in Present War.**—The large number of cases of mental disorders, functional and organic, makes necessary the presence of a physician trained to make thorough studies of and successfully treat mental patients. This requires a patience and skill obtained only through a thorough understanding of the conditions resulting from fatigue, worry, fright, shock, etc. In the organic cases, in which foreign bodies, such as shrapnel, have penetrated the nervous tissue, the roentgen ray has proved an invaluable asset in localization, for not infrequently, due to more extensive involvement resultant from hemorrhage and destruction, the neurologic symptoms do not correspond exactly with the site of the foreign body. For the more careful consideration of mental cases in the Base Hospitals, Auer says, huts should be assigned to a neuropsychiatric service, where the functional nervous and mental conditions can receive proper treatment in the way of complete rest, isolation, dietary measures, and such other treatment as may be required. The cases of organic injury to the nervous system should also be received in a special hut in the surgical division, where the surgeon and the neurologist can more competently care for the wounded and make a more thorough study of the findings.

82. **Mental Disease in Canadian Army.**—Of the total number of soldiers invalided to Canada, the proportion of nervous and mental cases has been fairly constant at 10 per cent., classified as follows: neurotic reactions, 58 per cent.; mental diseases and defect, 16 per cent.; head injuries, 14 per cent.; epilepsy and epileptoid, 8 per cent.; organic diseases of the central nervous system, 4 per cent. In the general policy of caring for the war neuroses, Farrar says, it has been demonstrated over and over again, that patients while under treatment should be shifted as little as possible from one institution to another. It is also as a rule, not well to have the patient in the vicinity of his home, and home visits are certainly contraindicated in the severer neuroses. The conscious will and purpose to get well are often difficult to establish and all opposing factors must be kept in mind.

Military Surgeon, Washington, D. C.

October, XLI, No. 4

87 Sanitation in War. T. H. Goodwin.—p. 377.
88 Bath, Disinfection Trains and Field Laundries of Austro-Hungarian Army. J. H. Ford.—p. 388.
89 Guide to Facilitate Establishment and Administration of Medical Group of Ports of Embarkation in Time of War or Threatened Hostilities Involving Oversea Operations. E. W. Rich.—p. 393.
90 Experiences and Suggestions on Automobile Ambulance Service of Modern Army in Field. S. Thorn.—p. 415.
91 Experiences with Russian Army of Caucasus in Northern Persia. T. L. Hazlett.—p. 445.
92 Place of Orthopedic Surgery in Treatment of War Casualties. J. E. Goldthwait.—p. 450.
93 Statistical Lessons of Crimean War. F. H. Garrison.—p. 457.

Missouri State Medical Association Journal, St. Louis

October, XIV, No. 10

94 Correction of Deformity Due to Complete Loss of Nose and Most of Alveolus and Hard Plate. J. F. Binnie and W. T. Stark, Kansas City.—p. 415.
95 Milk Borne Typhoid Outbreak in Children. S. T. Lipsitz, St. Louis.—p. 418.
96 Diagnosis and Treatment of Certain Subacute and Chronic Joint Conditions. F. D. Dickson, Kansas City.—p. 421.
97 Tubo-Ovarian Infections. H. S. McKay, St. Louis.—p. 423.
98 Treatment of Dacryocystitis in Infants. J. Green, Jr., St. Louis.—p. 427.
99 Need for More Thorough Examination into Family History and More Exhaustive Search for Disease in Applicants for Admission to Schools for Blind. J. W. Charlea and H. D. Lamb, St. Louis.—p. 430.
100 Physiologic Therapeutics. A. C. Ames, Mountain Grove.—p. 432.
101 Pulmonary Tuberculosis. H. S. O'Donnell, St. Louis.—p. 434.
102 Fallacy of Chiropractic Claims. J. D. Seba, Bland.—p. 437.

New York Medical Journal

October 20, CVI, No. 16

103 Mental Condition of Female Juvenile Delinquents. J. H. W. Rhein, Philadelphia.—p. 725.
104 Etiologic Factor in Gastro-Enteroptosis and Its Clinical Significance. E. J. Clemons, Los Angeles.—p. 728.
105 Venereal Prophylaxis. H. J. Millstone, Chicago.—p. 730.
106 Clinical Experience with Corpus Luteum Organotherapy. W. T. Dannreuther, New York.—p. 731.
107 Surgical Treatment of Gastric Ulcer. W. F. Fowler, Rochester.—p. 735.
108 Treatment of Pulmonary Hemorrhage. D. C. Martin, New York.—p. 738.
109 Wight Fracture Clamp. J. S. Wight, New York.—p. 741.
110 Relation of Hemorrhoidal Disease to Health Balance. W. M. Beach, Pittsburgh.—p. 742.
111 Colon Bacillus Pyelitis. J. Kaufman, New York.—p. 743.

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112 Choice of Operation for Retrodisplacement. E. E. Montgomery, Philadelphia.—p. 437.
113 Conservative Surgery of Fallopian Tubes. H. P. Jack, Hornell.—p. 443.
114 Gynecologic History. G. G. Ward, Jr., New York.—p. 445.
115 Recent Developments in Gynecology that Every Practitioner Should Know. W. W. Chipman, Montreal, Canada.—p. 453.
116 After-Care in Abdominal Operations. H. W. Jones, Utica.—p. 458.
117 Surgical Hemostasis of Female Pelvis—Stereoroentgenographic Study. H. D. Furniss and W. H. Meyer, New York.—p. 462.
118 Case of Antepartum Mammary Hyperemia Due to Unrecognized Malignant Disease. G. W. Kosmak, New York.—p. 464.
119 Necessity for Routine Rectal Examinations in Obscure Pelvic Pain. D. H. Murray, Syracuse.—p. 466.
120 Some of the General Skin Diseases with Ocular Manifestations. W. B. Weidler, New York.—p. 468.
121 Mass Volunteering by Medical Profession. F. T. van Beuren, Jr., New York.—p. 476.

Southern Medical Journal, Birmingham, Ala.

October, X, No. 10

122 Treatment of Tabes. L. M. Gaines, Atlanta, Ga.—p. 777.
123 *Importance of Time in Treatment of Tuberculosis. W. R. Kirk, Hendersonville, N. C.—p. 781.
124 Wassermann Reaction. G. E. Henson, Jacksonville, Fla.—p. 784.
125 Advances in Public Health Work in Oklahoma During 1915. J. W. Duke, Guthrie, Okla.—p. 788.
126 Prenatal Uncinaria Infection. H. H. Howard, New York.—p. 793.
127 Small Outbreak of Typhoid Attributed to Water. M. G. Perrow, Lynchburg, Va.—p. 795.
128 Gynecologic Origin of Nervous Manifestations. W. F. Shallenberger, Atlanta, Ga.—p. 797.
129 Indications for Decompression Operation in Fracture of Base. S. R. Benedict, Birmingham.—p. 799.
130 *Lump in Breast. E. B. Claybrook, Cumberland, Md.—p. 802.
131 What European War Has Taught Us in Treatment of Wounds. W. L. Brown, El Paso, Texas.—p. 809.
132 Some Factors in Railway Sanitation. O. Dowling, Shreveport, La.—p. 811.
133 History of Origin of Red Cross. H. L. Large, Rocky Mount, N. C.—p. 814.
134 Adenoids and Tonsils. L. R. H. Gantt, Spartanburg, S. C.—p. 818.
135 Research Function of Medical College. C. C. Bass, New Orleans.—p. 823.

123 and 130. Abstracted in THE JOURNAL, Dec. 23, 1916, pp. 1966 and 1967.

Tennessee State Medical Association Journal, Nashville

October, X, No. 6

136 Insanities and Their Relation to Practice of Medicine. J. J. Waller, Oliver Springs.—p. 221.
137 Operative Treatment for Gangrene of Feet with Special Reference to Blockage of Venous Return of Two Cases. J. B. Haskins, Chattanooga.—p. 226.
138 *Hay Fever; New Surgical Treatment. T. P. Miller, Knoxville.—p. 231.
139 Practical Electrotherapeutics. J. M. King, Nashville.—p. 236.
140 Some Diseased Conditions of Eye, Secondary to Infection in Other Parts of Body. O. Dulaney, Dyersburg.—p. 240.
141 Gastric Ulcer and Its Differentiation. J. A. Witherspoon, Nashville.—p. 244.

138. **Surgical Treatment for Hay Fever.**—Miller says that there is a condition in all cases of hay fever of highly sen-

sitized parts of the mucous membrane supplied by the olfactory nerve. This is caused in all cases he has seen by a malformation of the nose. This malformation can either be an enlarged superior turbinate, a deviated septum or a very close nose. At any rate, there is a pressure between the superior turbinates and the septum, causing a highly inflamed and sensitized condition of the mucous membrane at the ramifications of the olfactory nerve. These are the patients who have hay fever. Miller relieves this pressure by removing the superior turbinate or by the proper application of trichloracetic acid.

Texas State Journal of Medicine, Fort Worth

October, XIII, No. 6

142 Treatment of Carcinoma of Mouth. V. P. Blair, St. Louis.—p. 205.
143 Sphenoid Sinus Problem. E. M. Sykes, San Antonio.—p. 209.
144 Systematic Routine Thoroughness in Mastoid Surgery. L. H. Lanier, Texarkana.—p. 211.
145 Some of the Conditions Affecting Breast Fed Babies. B. E. Greer, Dallas.—p. 213.
146 Danger Signals for Medical Examiners. J. H. Florence, Houston.—p. 215.
147 Treatment of Acute Infections of Nose and Accessory Sinuses. J. H. Foster, Houston.—p. 217.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Lancet, London

October 6, II, No. 4910

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1. **Hysterical Deafness in Soldiers.**—Hurst and Peters are convinced from their experience that absolute deafness associated with normal vestibular reactions should be regarded as hysterical, and when simple encouragement fails, as will generally be the case if the patient is not also dumb, an "operation" should be performed after the patient has been made to feel quite confident that it will restore his hearing. This "operation" is described as having been applied in two cases of absolute hysterical deafness without mutism, and in one of them mutism was originally present, but spontaneous recovery had occurred some months earlier in which all treatment had failed. The first patient was given enough ether to make him excited, and two small cuts were then made behind his ear; a hammer was banged on a sheet of iron during the "operation," and the moment after the incision had been made the patient jumped off the table with his hearing restored. The other patient was unwilling at first to undergo an operation, but finally consented, as he was naturally impressed by the recovery of the first patient, who was in the same ward and had been deaf for a much longer period. The same "operation" was performed and complete recovery occurred in exactly the same way.

2. **Reactions to Human and Bovine Tuberculin.**—Gauvain applied the Pirquet test to eighty cases of tuberculous bones or joints. In order to avoid any risk of unconscious bias he made the inoculations and recorded their results without knowledge of bacteriologic reports as to the type of bacillus found. The tuberculins employed were Koch's "old tuberculin," prepared from the "human" type of bacilli, and his tuberculin prepared in the identical way from bacilli of bovine origin. The tuberculins were applied to suitable skin scarifications in dilutions of 1/64, 1/16, 1/4, and in full strength, each in approximately equal bulk and controlled by inoculation of a scarification with the same quantity of sterile normal saline solution. The final result of Gauvain's investigation may be stated briefly as follows: 1. Local reactions to inoculations of both human and bovine tuberculin were invariably present in all patients from whose pus tubercle bacilli had been isolated. 2. Though reactions were invariably present, the degree of reaction varied within wide limits. 3. Weakly and cachectic patients usually reacted feebly, quite irrespective of differences in the severity of their local lesions. 4. Strong and vigorous patients exhibited wide differences in the degree of their reactions, irrespective of differences in the extent or the severity of their local lesions. 5. The quantitative Pirquet test was found to be of value in forming an estimate of the severity of the infection, and was of little prognostic value. 6. It was impossible to differentiate the type of tubercle bacillus with which the patient was attacked by the nature of the reaction to the tuberculin employed.

3. **New Dietetic Treatment of Diabetes.**—Cammidge points out that at present our only reliable means of combating the disease is management of the diet, but in order to obtain the best results and actually halt the diabetic process it is necessary that it should be carried out with knowledge and as nice discrimination as the selection and prescription of a drug. Time and care devoted to the chemical aspect of each case render the task easier, and would prevent the empirical employment of one routine method, so saving many patients from unnecessary hardships and inconveniences. It is not enough to consider only the glycosuria, or even the end-products of metabolism in the urine, the information to be obtained from analysis of the blood and feces should also be taken into account, and Cammidge thinks that the time is coming, and will come shortly, when a physician who attempts to treat a case of diabetes guided only by examination of the urine for sugar will be held as guilty of negligence as the present-day surgeon would be who failed to employ roentgenography when treating an injury of the bones or joints.

4. **Meningococcus Carriers Treated with Antiseptics.**—Owing to the measures adopted in the British Navy to limit the spread of cerebrospinal fever a large number of carriers were detected in the Portsmouth depot and isolated in a special camp. It then became necessary to attempt to sterilize the throats of these men, and, although from analogy with other diseases the local application of antiseptics appeared likely to be unprofitable, it was thought desirable to give these a trial. If the antiseptic did not destroy the cocci in the throat, it was possible that it might prevent the cross infection from one man to another. The antiseptics most thoroughly tested were chloramin-T and acriflavine. Other antiseptics were boric acid, phenol, magnesium hypochlorite, aqueous solution of formaldehyd gas, potassium permanganate, guaiacol and several others. In addition to these, Fildes and Wallis administered to a few men a placebo in the form of tablets of formaldehyd solution. Chloramin-T was applied in two different ways: (*a*) In an inhaling chamber: A 5 per cent. solution of chloramin-T was used in the reservoir of the nebulizer; this strength was found to give as powerful an atmosphere of chlorin as was pleasant. The men remained in the chamber for about fifteen minutes per diem. (*b*) In a nasopharyngeal spray: The chloramin-T (2 per cent.) thus came copiously into contact with the whole nasopharynx and often dripped from the anterior nares. This treatment was applied once a day. Acriflavine in a strength of 1 in 500 in salt solution, was applied daily with the authors' nasopharyngeal spray. The other antiseptics mentioned were all applied with a nasal spray until the drug could be felt in the nasopharynx. The strength of boric acid was 1 dram to the pint, of phenol 1 in 200, of liquor formaldehyd 1 in 200, and of potassium permanganate 1 in 1,000. Looking at the results as a whole, Fildes and Wallis conclude that one third of the men recover spontaneously, and that none of the methods of treatment tested has any conspicuous merit, nor has one any obvious advantage over another. This result is what might be expected from analogy with work on diphtheria carriers.

5. **Closure of War Wounds in Home Hospitals.**—The method which experience has led Phillips to adopt includes something of the bismuth iodoform petrolatum paste method along with the sodium hypochlorite treatment. Where pus is pocketing in the track of a through-and-through wound, or beneath or between two adjacent muscles, or where loose bone fragments or other devitalized or foreign bodies are present, an anesthetic must be given and the wound cleansed and laid freely open. The skin incision whenever possible should extend the whole length of the wound. The ideal Carrel wound is a basin which can easily be kept full to the brim with the hypochlorite solution. Every third or fourth day a platinum loopful of the discharge is taken from the wound surface wherever it looks least healthy and examined bacteriologically. Phillips makes it a rule not to attempt to close a wound until two reports of an average of less than three organisms per field have been returned.

Wound Closure: The skin around the surgically clean wound is cleansed, the edges of the wound are trimmed, the granulations are thoroughly curetted, the skin edges are undercut. Any definitely bleeding vessels are tied (oozing does not matter), the whole wound area is swabbed with methylated spirit and a little bismuth iodoform petrolatum paste is scrubbed into the raw surface with the gloved fingers. Wherever possible any raw muscle surface is closed by bringing together the edges of the deep fascia (exposed by the under cutting) with a running stitch of stout catgut. Thick silk sutures (No. 5 pedicle silk boiled and soaked for forty-eight hours in tincture of iodin) are passed through the skin and the deep layers of the wound at intervals of about ¾ inch and tied tightly so that no "dead cavity" is left. In cases in which there is tension on the part, the most useful stitch is a combination of a mattress with a simple surgical stitch. A continuous catgut stitch is used to complete the coaptation of the skin edges. The skin is cleaned and smeared over with Moynihan's cream (a mixture consisting of as much bismuth carbonate and 1:1,000 watery solution of mercuric iodid as will make a thick paste) and a simple dry gauze and wool dressing applied. The dressing is not touched for fourteen days. It is then removed, any discharge is wiped away and Moynihan's cream and another dry dressing are applied. At the second dressing a week later the stitches are removed, and never before.

Of ten cases so treated Phillips finds that seven or eight will have healed practically by first intention, one or two will have gaped a bit at one part, leaving a superficial granulating area, and the tenth—practically always one where there has been loss of tissue and consequent tension on the stitches—will be a failure, at any rate in large part, and will require to be done again, or perhaps skin grafting will be necessary.

7. **Laparotomy for Gunshot Wound.**—In Johnston's case of gunshot wound of the abdomen, with perforations of intestine, which were sutured, diffuse purulent peritonitis occurred as a complication, consequent on rupture of an abscess in the anterior abdominal wall. Treatment by the hypochlorite method was carried out, and resulted in recovery.

Medical Journal of Australia, Sydney

September 22, II, No. 12 . .

11 Arneth Index in Eastern Australia. E. M. Sweet.—p. 243.
12 Medical Work Seen in Australian Military Hospitals. W. Summons.—p. 244.
13 *Early Symptoms Following Infection by Schistosomum Mansoni. F. B. Lawton.—p. 247.
14 Case of Ruptured Diverticulum with Fatal General Peritonitis. W. R. Groves.—p. 251.

13. **Symptoms Following Infection by Schistosomum Mansoni.**—In August and September, 1916, twenty-four patients were admitted to an Australian general hospital in Cairo suffering from some or all of the following symptoms: abdominal pain, enlarged and tender liver and spleen, pyrexia, bronchitis, urticaria and diarrhea. All the patients were Australians, who had not traveled before enlistment. At first it was not clear what was the matter with these men, and blood cultures were made and other investigations were carried out with negative results, but the blood picture afforded the key. In every case a striking eosinophilia (5-53 per cent.) was present. This led to prolonged examination of the stools for parasites, and resulted in the discovery of the lateral spined ova of *Schistosomum mansoni*. The ova were found ultimately in the stools of all. The ova were scarce at this stage of the disease, as presumably the majority of the paired adult worms had not yet found a suitable home in the veins draining the rectum. All of these patients had been in camp at Tel-el-Kebir during the three months preceding the onset of symptoms, and it was there, Lawton says, that the infection apparently was contracted.

Practitioner, London

October, XCIX, No. 4

15 Moral Imbecility. C. Mercier.—p. 301.
16 Fifty Cases of Exophthalmic Goiter Treated by Operation. A. J. Walton.—p. 309.
17 An Alleged Death of Male from Tight Lacing. Curious Medico-legal Case. W. A. Brend.—p. 339.
18 Recent Work on Anesthetics. J. Blomfield.—p. 347.
19 Review of Tropical Diseases. R. T. Hewlett.—p. 352.
20 Writer's Cramp and Allied Affections: Their Treatment by Massage and Kinesitherapy. D. Graham.—p. 363.
21 Principles of Modern Methods in Urethritis. J. MacMunn.—p. 373.
22 Case of Postpneumonic Aphonia. W. E. Boyd.—p. 388.
23 Case of Tuberculous Meningitis of Unusually Long Duration. G. H. Hickling.—p. 390.
24 Diagnostic Puzzle. F. J. E. Godson.—p. 392.

Sei-I-Kwai Medical Journal, Tokyo

September, XXXVI, No. 9

25 A Disease of Pigeons Due to Partial Inanition. Y. Kon and M. Okazaki.—p. 91.

Bulletin de l'Académie de Médecine, Paris

September 18, LXXVIII, No. 36, pp. 227-297

26 *Surgery of the Heart. P. Delbet and E. Delorme.—p. 243.
27 Control and Analysis of the Alkalinity of Solutions of Chlorinated Soda Used in Surgery. W. Mestrezat.—p. 295.

26. **Surgery of the Heart.**—Delorme has compiled seventeen cases of projectiles in the heart, and states that the missile was removed in thirteen cases, with recovery in all but three. The list includes the successful removal of a projectile in the right ventricle. The operation for removal of a projectile in the heart proceeds very simply, with no sensational features. The injuries discussed might all have been avoided, probably, if a steel breastplate had been worn. The field of intervention on the heart is discussed with much detail, full summaries of a number of cases of gunshot wounds of the heart being given, and the indications according to the parts of the heart involved. He expresses surprise that, from the records to date, no attempts seem to have been made to suture the heart, but projectiles are being extracted with almost constant success.

Bulletins de la Soc. Méd. des Hôpitaux de Paris

July 20, XLI, No. 25, pp. 869-928

28 Decompressive Trephining. H. Dufour and R. Zivy.—p. 872.
29 *Purulent Pleurisy Cured without Fistula by Filiform Drainage. Chaput and Dufour.—p. 875. Chaput and Florand.—p. 877.
30 *Varying Response of Meningococci to Different Antiserums. Nicolle, E. Debains and C. Jouan.—p. 878; A. Netter.—p. 882.
31 *Fermentation of Sugar and Anaerobiosis of Diphtheria Bacilli. H. Stévenin.—p. 890.
32 *Tin in Treatment of Furunculosis. I. Bruhl and J. Michaux.—p. 892.
33 *Exophthalmic Goiter in Soldiers. P. Merklen.—p. 894.
34 War Wounds of Spinal Cord. G. Guillain and J. A. Barré.—896.
35 *Suprarenal Dyspepsia. M. Loeper, Beuzard and Wagner.—p. 903.
36 *Myotonic Reaction with Pleuropulmonary Tuberculosis. M. Loeper and H. Codet.—p. 907.
37 *The Obsidional Bacteria and Their Pathologic Manifestations. Sacquépée.—p. 917.
38 *Icterohemorrhagic Spirochetosis. Valassopoulo.—p. 920.

29. **Filiform Drainage in Pleurisy.**—Chaput calls attention to the prompt and permanent benefit from filiform drainage in the three cases of pleurisy he reports in detail. This brings to five his total cases of severe purulent pleurisy, including two with gangrene, in which, as he says, without general anesthesia or resection of a rib, the patients were promptly cured by this simple technic.

30. **Different Types of Meningococci.**—Nicolle and his co-workers tested 105 specimens of meningococci of different origins for their agglutination response to monovalent immune serums from the horse and to normal horse serum. The responses classed the meningococci as belonging to four types. Type A seems to correspond to Gordon's Types I and III and Ellis' Types I and II. Type B corresponds to Gordon's Types II and IV. The Type A seems to be identical with Dopter's meningococcus. The findings reported confirm the importance of using both A and B in preparing the immune serum, or else mixing the two antiserums. They also suggest the necessity for determining in each epidemic which is the prevailing type and using a corresponding antiserum.

Netter's experience with serotherapy in 323 cases of meningitis since 1908 confirms the reliability of the agglutination test for classifying the type of meningococci involved in each individual case. He found the B type in his last four cases of meningitis accompanied with purpura, and also in a case of meningococcus septicemia preceding the meningitis by several weeks. In three recent cases from which the B meningococcus was cultivated, rapid recovery followed B antiserum in the two cases in which it was available, in marked contrast to the course in the other case.

31. **Differentiation of Diphtheria and Pseudodiphtheria Bacilli.**—Stévenin reports that in his research the fermentation of sugar and the growth without oxygen plainly differentiated the true diphtheria from the pseudodiphtheria germs. These biologic reactions seem to be constant.

32. **Tin in Treatment of Furunculosis.**—Bruhl and Michaux relate experiences with intramuscular injections of colloidal tin which confirm the view that in this we have another weapon at our disposal in treatment of furunculosis, but that it is not invariably successful.

33. **Exophthalmic Goiter in Soldiers.**—During the last six months, Merklen has encountered about ten cases of exophthalmic goiter in men sent back from the trenches on that account. Other hospitals have reported a similar increase of cases of exophthalmic goiter in men although the total number is small. It usually came on suddenly as is the rule when it is of emotional origin.

35. **Suprarenal Dyspepsia.**—Summarized page 947.

36. **Myotonic Reaction with Tuberculosis.**—Summarized page 1205.

37. **Obsidional Infections.**—Sacquépée gave the name obsidional or siege bacteria to a group of bacteria he found in men who have been for some time in the trenches. The most important of the affections induced by these bacteria is a febrile state with anemia but no eruption and no typhoid state. There is often jaundice and a meningeal condition without appreciable changes in the fluid. In the few necropsies that have been made the liver showed evidences of infection and the spleen was hypertrophied and the kidneys were tumefied and yellow, but the main lesions were hemorrhagic patches and small ulcerations in the bowel, predominantly in the ileum and cecum, with swollen mesenteric glands. No other specific bacteria could be found and there was deviation of complement with the obsidional bacterium discovered. These were the exclusive findings also in a fatal case of choleriform enteritis, and animals inoculated with the bacteria developed similar intestinal lesions.

38. **Icterohemorrhagic Spirochetosis.**—Valassopoulo discusses his experience with infective febrile jaundice at Alexandria, analyzing 300 hospital cases with 32 per cent. mortality, nearly all with necropsy. Since Alexandria and Smyrna have been sewered and the sewer rats poisoned off, the disease has ceased to be endemic at these points. He never observed a case in a child and only very rarely in women, and never a case of direct contact from man to man. The rat seems to be the indispensable intermediary. In some of the epidemics the mortality was 50 or 60 per cent. He gave extract of liver subcutaneously, and when the kidneys were seriously involved he obtained relief with wet cupping or venesection. Isolation and serotherapy promise still better results now.

Journal de Médecine de Bordeaux

September, LXXXVIII, No. 10, pp. 195-216

39 *To Facilitate Search for Helminths in the Stools. J. Carles and E. Barthélemy.—p. 195.
40 Treatment of Traumatic Dislocation of the Patella. A. Charrier and H. Fontaine.—p. 199.
41 *Sunlight in Treatment of Wounds. D. Frèche.—p. 205.

39. **Enrichment Method in Examining Feces for Parasitism.**—Carles and Barthélemy discuss the shortcomings of the different methods in vogue for detecting helminths, their encysted forms and ova in stools. They declare it is necessary to fluidify and homogenize the specimen of stool and bring it to the exact specific gravity most effectual for centrifuging out the parasites and their ova. They get rid of the coarser elements by passing the material through a wire sieve and a silk sieve (Hall). They take 20 gm. of feces to begin with, and dilute with physiologic salt solution containing 10 per cent. formol. The silk sieve has 90 threads to the centimeter (No. 90), except when seeking for ova; these require No. 32. The sieved fluid is then distributed in the centrifuge vials and centrifuged at 1,800 turns for one minute. The supernatant fluid is decanted and the sediment treated with a mixture of 12 gm. citric acid and 2 gm. of a 40 per cent. solution of formol and 86 gm. of water. The specific gravity of this is 1.047. Then 1 or 2 c.c. of ether is added and the tube agitated briskly to detach the sediment. Then centrifuge for thirty seconds at 1,800 revolutions. Then stir up the zone separating the ether from the fluid, using the tip of a pipet closed in the flume. This is to restore any cysts that might have been carried up by the ether. Then centrifuge again for thirty seconds as before, and decant all but the sediment. By this technic there is nothing left in the sediment except the helminths, encysted forms of protozoa, ova, and a little other debris of high specific gravity. The specimen is then ready for the microscope and gives exceptionally clean and clear microphotographs, as they illustrate by a few examples showing the lamblia and the encysted forms, with only a few vegetable cells, in one of the four microphotographs.

41. **Sunlight Disappointing in Treatment of Wounds.**—Frèche quotes experiences which demonstrate that the bactericidal power of sunlight is very small in a moist medium. Hence wounds do not benefit from exposure to sunlight as they are not dry and as the blood in the tissues absorbs the more useful rays. While sunlight may kill dry anthrax spores in from twenty-nine to fifty-four hours, this takes very much longer when the spores are sheltered from the air or kept moist. His experience has been less favorable with wounds treated by exposure to sunlight than with other methods of treatment. The only wounds that seemed to benefit were of the torpid type, with smooth, pale pink tissues and no tendency to granulations. But even in these cases, other physical or chemical stimulants gave equally good results.

Lyon Chirurgical

July-August, XIV, No. 4, pp. 625-792

42 *Wounds of Vessels. R. Grégoire and H. Mondor.—p. 625.
43 *Immediate Treatment of Wounds of Vessels. L. Sencert.—p. 640.
44 *War Wounds of Arteries without External Hemorrhage. H. Alamartine.—p. 687.
45 Arteriovenous Aneurysms. M. Patel and L. Bérard.—p. 709. P. Bonnet.—p. 715.
46 Shell Wound Involving Jugular and Carotid Vessels. (Le syndrome du sinus pétreux supérieur.) R. Leriche.—p. 728.
47 *Course of War Wound in a Hemophiliac. N. Fiessinger and R. Montaz.—p. 738.
48 *Periarterial Sympathectomy for Posttraumatic Reflex Nervous Disturbances. R. Leriche and J. Heitz.—p. 754.

42. **War Wounds of Vessels.**—Grégoire and Mondat relate some typical instances of tardy hemorrhage and tardy opening of the artery after a vessel had been injured by a projectile. Among their eighty cases of severe wounds of a vessel, in twenty-four there were no signs of hemorrhage nor hematoma nor ischemia, and only eleven presented immediate and persisting hemorrhage. At their ambulance it was the routine practice to ligate the vessel above and below the injured area, on sound segments. The skin was never sutured at once unless they were sure there was nothing to cause

concern, as gangrene is always imminent after a gunshot wound of a vessel. All the men recovered except two who succumbed to tetanus or gas gangrene, and four others with fatal secondary hemorrhage or anemia.

43. **Immediate Treatment of War Wounds of Vessels.**—In Sencert's experience with forty-two operative cases of hematoma, intense pain and impotence of the limb almost invariably accompanied the wound of the artery, along with more or less shock. Cases of supposed fracture of the femur with complete inability to use the leg sometimes proved to be the result of severing of the popliteal vein, the bones intact. The complete impotence of the limb and the pain may be in striking contrast to the visible injury of the soft parts. The injury of the vessel sheath and its sympathetic plexus likewise explain the tendency to shock. The vessel should never be ligated if suture is possible, but every hematoma should be evacuated at once. He gives an illustrated description of the best mode of access to the trunk vessels of the axilla, base of the neck, and elsewhere. By lifting up the main artery on a stout catgut it is kinked and the blood stream arrested. This has another advantage over a ligature as by lowering the catgut the blood flows again and the lesion in the artery is thus accurately located. He has found this method of hemostasis work well on the common carotid, external iliac and other arteries. Even at the best, diffuse hematomas are dangerous; fully a third of those involving important arteries treated by ligation in the wound developed partial or total necrobiosis below.

44. **War Wounds of Vessels Without External Hemorrhage.**—Alamartine reports thirty-two operative cases of aneurysm or arteriovenous fistulas, and discusses the various minor symptoms.

47. **War Wound in a Hemophiliac.**—The young man, his brother, his mother and her brother were all bleeders. He had had three severe experiences with persisting hemorrhage at different times, but the bleeding had always stopped spontaneously about the twelfth day, regardless of the measures applied. Wounded in the hand, sheet hemorrhage kept up for the usual twelve days and then stopped, but the anemia was fulminating and extreme. The blood recuperated, however, as rapidly as the anemia had developed. The whole arsenal of measures to combat hemophilia had been applied but none seemed to do any good, except strong compression with the limb raised. The minute details of analysis of the blood at intervals show that there was no lack of fibrinogen or calcium salts. Neither horse serum nor beef serum accelerated coagulation, which demonstrates that these serums do not supply a lacking thrombozym but act as antigens, inducing an organic reaction. Fresh human serum shortened the interval before coagulation but this effect was still more marked with white corpuscles from normal human blood. When washed white corpuscles were added to the hemophiliac blood, coagulation occurred rapidly. This seemed to show that the white corpuscles supplied the element which was lacking in the hemophiliac blood. It is possible to obtain a leukocyte clot which might aid in arresting a hemophiliac hemorrhage applied directly to the bleeding spot. Draw 5 or 10 c.c. of venous blood into twice its volume of one third alcohol (*alcool au tiers*). Agitate. Centrifuge immediately and decant the hemolyzed fluid. The clot of leukocytes left can then be applied directly to the bleeding surface. This seems to be unquestionably the best local method for promoting local coagulation.

48. **Periarterial Sympathectomy.**—See abstract 60 below.

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September 15, VII, No. 37, pp. 225-240

49 *Pulmonary Syphilis. Leredde.—p. 225.
50 *Improved Technic for Herniotomy. (Procédé antéfuniculaire.) P. Soubeyran.—p. 234.
51 Gage for Bladder Sphincter Action. Uteau and Rey.—p. 239.
52 Salicylate Ionization in *Case of Trigeminal Neuralgia. Olivier.—p. 239.

September 22, No. 38, pp. 241-256

53 *Systematization of Measures to Repress Venereal Disease. Gougerot.—p. 241.
54 *The Psycho-Physiologic and Moral Aspects of Reeducation and Rehabilitation of the Wounded. P. Sollier.—p. 246.
55 Costal Cartilage Graft to Close Skull Defect. Soubeyran.—p. 249.
56 *Stimulation of the Accelerator Nerves Renews Arrested Heart Action. J. P. Morat and M. Petzetakis.—p. 252.
57 Quantitative Determination of Sugar Content of the Blood. L. Bauzil and L. Boyer.—p. 254.
58 Attacks of Amebic Dysentery in Carrier after Antityphoid Vaccination. Bouyer.—p. 255.

49. **Overlooked Form of Pulmonary Syphilis.**—Leredde reports positive responses to serologic and clinical tests for syphilis in many cases of recurring bronchitis, emphysema and asthma in young men and women. He reports the details of twenty such cases. All had been inclined since childhood to shortness of breath on exertion, and several had emphysema. Some had attacks of asthma, and all had certain or probable inherited syphilis. There seems to be some underlying active process of sclerosis. Tests for syphilis should be made in all cases of asthma, emphysema, dyspnea on effort, and recurring bronchitis at any age.

50. **Operative Treatment of Inguinal Hernia.**—Soubeyran gives an illustrated description of what he calls the antefunicular procedure for strengthening the wall in correction of inguinal hernia. Its chief advantage over the Bassini is that the cord is not drawn to one side and thus subjected to possible injury, but is pushed down into the plane of the subperitoneal cellular tissue in contact with the peritoneum.

53. **Venereal Diseases.**—Gougerot reiterates that every means of reducing the spread of venereal disease should be intensified and applied simultaneously. He describes the model, entirely gratuitous, "annex service" to seek out and cure the contagious cases, and thus suppress the source, and he insists that every city, every important garrison and agglomeration of working people, every place large enough to have a prefect or subprefect should have this annex service. Its chief should be in close touch with the prefect, and the service should work along the five main lines: education of the public, and detection and treatment of venereal diseases—the dispensary open to men and women outside of working hours; surveillance and treatment of prostitutes with dispensary and hospital care apart from the quarters for the nonprostitutes; search for and treatment of foci of contagion. He has organized eleven annex services of this kind in his district. The chief of the annex service should be an expert in dermatology, urology and practical gynecology besides venereology. The personnel should include a bacteriologist, a dentist, and one or two men or women nurses trained specially for the service. The annex service should organize substations throughout the district not restricting its action to the towns. For this he suggests flying dispensaries, *consultations ambulantes*. The chief or his assistant takes in an automobile the necessary equipment for examination and treatment, and gets the proprietor of a large factory to lend him the use of a room at a convenient hour, or he gets some room nearby. He may thus be able to attend to several large industrial establishments in a day. Gougerot has found this plan work finely in the district in his charge. Otherwise he has to depend on the factory physician to sift out and send to the central service those needing attention. Free railway return tickets are given out by the mayor for this purpose. Gougerot discusses further the difficulties and obstacles presented by organization of the annex services, and by the objections and inertia of the existing town and hospital authorities, and how to overcome them. It will require legislation for central organization of the service, and placing the surveillance of prostitutes in the hands of the chief of the service. In conclusion Gougerot reviews the vast field of prophylaxis, urging especially financial inducements for earlier marriages, and the conferring of the rights of a legal wife on a girl that has been deflowered. He also urges the need for recreation centers for the young, and canteens, particularly in the railroad stations for soldiers passing through. Intensify, organize and unify, and above all, be quick about it, is his cry.

54. **Motor Reeducation.**—Sollier declares that mechanical apparatus do actual harm in treatment of functional impotence of nervous origin, actually increasing the trouble in many cases, both physiologically and psychologically. On

the other hand, all the elements are favorable for a cure when the reeducation is along the lines of work to which the patient was formerly accustomed. As movements return, the rehabilitation is both physical and moral. In the "neurologic center" in his charge, thirty months' experience has confirmed the advantages of farm and gardening work and woodworking in rehabilitating the wounded both in body and spirits.

56. **Resuscitation of the Heart by Stimulating the Accelerator Nerves.**—Morat and Petzetakis give some electrocardiograms showing that after the heart action in animals had been arrested for over twenty minutes, it could be started to working anew by applying a medium electric current to the accelerators or even to one alone. The experiments were made with animals under the influence of chloroform and extreme cold. One tracing shows how the electric stimulus was applied to the right sympathetic just above the first thoracic ganglion. All the cavities of the heart had stopped during diastole. Five seconds after the stimulation of the accelerators, the right auricle and almost at once the left auricle also began to contract while the diastole of the ventricle persisted. The auricular contractions, weak at first, gradually became stronger and then suddenly, at about the seventeenth second, the ventricles started up, the rhythm closely like that of the auricles. Two other electrocardiograms show the similar revival of heart action in dogs after ten minutes of arrested heart action.

Presse Médicale, Paris

September 10, XXV, No. 50, pp. 513-528

59 The American Red Cross. P. Desfosses. Title Page.
60 *Periarterial Sympathectomy. R. Leriche.—p. 513.
61 *Facial Paralysis. V. Pauchet and J. Labouré.—p. 515.
62 *Injury of Feet and Hands from Cold. J. Cottet.—p. 517.
63 *Mechanical Device for Dilatation with Laryngotracheal Stenosis. A. Jouty.—p. 518.
64 The Present Significance of the Amino-Acids. P. Desfosses.—p. 519.

September 13, No. 51, pp. 529-536

65 Professional Secrecy from Medicolegal Standpoint. H. Berthélemy.—p. 529.
66 *Flexion of Big Toe on Percussion of Achilles Tendon. M. Villaret and M. Faure-Beaulieu.—p. 531.
67 *The Limits of Asystoly. M. Perrin.—p. 532.
68 Action of the Pituitary Body on Kidney Functioning. M. Romme.—p. 533.
69 Treatment of Keratitis with Hypopyon. Teulières.—p. 536.

60. **Peripheral Sympathectomy.**—Leriche relates that in thirty-seven cases he has treated rebellious contracture or causalgia by denudation and excision of the periarterial network of sympathetic fibers. Others have applied the measure also since his first publication on the subject, summarized in these columns April 21, 1917, p. 1216. In this later series the pain was permanently abolished in some but not in all. In five cases of trophic ulceration a complete cure was realized in all. The outcome was a complete success in sixteen of the total thirty-seven cases, and when the peripheral sympathectomy was associated with massage and training of the muscles, good results were obtained in a number of the others. On the whole, peripheral sympathectomy is an interesting and useful operation in severe forms of what are known as "reflex nervous disturbances," pain, paralysis and contracture. The exact indications for it are not quite decided as yet.

61. **Facial Paralysis.**—Pauchet and Labouré describe the measures indicated for medical and for traumatic facial paralysis, and give an illustration of the technic for suture of the nerve in case of fracture of adjacent bones. In twelve operations on the nerves the outcome was excellent in seven. Operations on other nerves, they reiterate, seldom give as good results as anastomosis of the nerves responsible for facial paralysis after a war wound.

62. **Disturbances from Chilling of Hands and Feet.**—Cottet calls attention to the acroparesthesia from the action of cold which is the first symptom of what progresses to frozen feet and hands. He thinks that the importance of chilling as a factor in pathology has been too much overshadowed by the notions of infection. Cold, and especially damp cold, may be an important factor in those states of vague pains ascribed sometimes to rheumatism, sometimes to neurotrophic disturbances. The prompt and remarkable benefit under local heat confirms this assumption. The segments of hypoesthesia *a frigore* may be exactly like those of hysteria. They are symmetrical and sharply defined, and are accompanied by zones of hyperesthesia. The circulatory disturbance under the action of the cold interferes with the nourishment of certain nerve fibers in the region as their blood supply is shut off. The resulting diffuse and superficial neuritis classes this acroparesthesia from chilling with the trophoneurotic vasomotor syndromes.

63. **Treatment of Laryngotracheal Stenosis.**—Jouty gives an illustrated description of his method of dilation through a tracheolaryngostomy. A soft rubber tube in the throat is held in place by a hollow mallet shaped metal tube. A silver plate slipped over the projecting shank holds a small dressing against the opening around the projecting tube, and a nut holds this plate firm. This plate and the projecting nut are all that shows, no other dressings being needed.

66. **Flexion of Big Toe on Percussion of Achilles Tendon.**—Only the terminal phalanx bends, and this occurs when the sciatic nerve is diseased. The reflex cannot be elicited in normal conditions.

67. **Limits of Asystoly.**—Perrin warns that we must not wait for the trio, hypotension, tachycardia and oliguria, before diagnosing insufficiency of the contracting power of the heart. There are atypical forms of it, sometimes with abnormally high blood pressure, sometimes with what seems to be polyuria, but is in reality a relative oliguria compared with the amounts of urine previously voided. The pulse likewise may be abnormally slow, although in comparison with the previous pulse rate it is much accelerated. In one such case the pulse never went above 74 although the temperature ran up to 39.2 C. during the pneumonia which had affected the heart. Under digitalis and good nursing the man recovered, his pulse then declining to its habitual rate of 40. Perrin adds that the atypical forms of asystoly call for the same measures as the typical cases.

Correspondenz-Blatt für Schweizer Aerzte, Basel

September 15, XLVII, No. 37, pp. 1185-1216

70 Dangers of the Stem Pessary. (Gefahren des Intrauterinpessars.) H. Guggisberg.—p. 1185.
71 *Medicinal Silver Poisoning. (Argyria universalis.) O. Steiger.—p. 1192.
72 Training Teachers for Lip Reading Courses. (Absehunterricht.) Nager.—p. 1200.

71. **Poisoning from Silver Salts.**—Besides four cases of universal argyria following medication with silver salts, Steiger mentions some industrial cases in men or women working with silver. He discusses the literature on the subject and the various clinical pictures induced. In three of the four medicinal cases reported, the universal argyria was pronounced, and nothing seemed to modify it. The total dosage had not been as large as in other cases on record, the patients having taken only from 4 to 6.5 gm. silver nitrate in the course of from one to thirteen years. One tabetic man of 56 had taken 400 pills of 0.01 gm. each in the course of five years; the other patients were women in the forties. In the cases previously published, 20 or 30 gm. had been the amount taken before the argyria developed. In Steiger's fourth case the argyria was restricted to the conjunctiva; the silver nitrate had been applied 100 times to the eye in treatment of trachoma. He urges research on silver poisoning as better understanding of this might throw light on numerous questions as to absorption and elimination. In his cases silver was found in the stools and in some cases in the blood, but never in the urine.

Chirurgia degli Organi di Movimento, Bologna

August, 1, No. 3, pp. 325-407

73 *Treatment at Base Hospital of War Wounds on Limbs. E. Magni.—p. 325.
74 *Sodium Salicylate in Prophylactic Treatment of War Wounds of Joints. G. Impallomeni.—p. 367.
75 *Remote Results of Treatment of Scoliosis. A. Serra and G. Valtancoli.—p. 380.
76 Anatomic Iconology by Orthopedic-Cinematic Surgery. G. Vanghetti.—p. 400.
77 *Technic for Exposing the Radial Nerve in the Upper Arm. V. Putti.—p. 403.

73. **Treatment of War Wounds.**—Magni refers only to cases such as reach him in the base hospital in his charge. Sixteen double-line pages of titles of articles on the traumatology of war are appended to his article. His experience with 3,618 cases of war wounds of limbs during an eighteen months' period has convinced him that it is best to leave a wounded limb unmolested as much as possible and keep it quiet. This was preached by Magati as long ago as 1616, so he calls this system of immobilization with rare change of dressings the Magati method. The wound should be cleared out at first but then the dressing may be left untouched for two weeks or more unless special indications arise. The skin irritated by prolonged contact with pus is soothed by painting with paraffin dissolved at 45 C. He did not drain often, believing that this is necessary only when there is danger that an infectious process may be shut in too soon by the superficial tissues. He never injected any drugs into the wound, never aspirated fluid or rinsed out a joint, and resected only in two cases and extracted the projectile in three cases. All the others recovered under immobilization alone, draining merely when there was a pus pocket and not replacing the drain when this was cleared out. Solid plaster casts answered the purpose better than the fenestrated. Massage in case of stiffness and adhesions is more effectual when done under active hyperemia or, better still, under passive stasis. His experience has shown further that the large vessels can be ligated at any point in their course unless there are acute or chronic inflammatory processes in veins, obstructing the venous collateral circulation. In this case gangrene is inevitable.

74. **Sodium Salicylate in Prophylaxis of Sepsis in War Wounds of Joints.**—Impallomeni cites authorities to show that sodium salicylate is eliminated by the synovial membranes. This suggested that it might aid in warding off sepsis in case of a war wound of a joint, as this drug is the sovereign remedy for rheumatic arthritis. The trauma from the war wound evidently aids in attacting the drug to the spot, like an infectious process, and his experience during the war, he says, has brilliantly confirmed the correctness of his premises. A number of typical cases are described and illustrated, all corroborating the value of sodium salicylate for warding off septic processes in the joint. A dose of 0.5 gm. is given by the mouth at the first dressing, when a joint has been wounded, and this treatment is continued later or, better yet, a subcutaneous or intramuscular injection or both are given. The synovia responded positively to the ferric chlorid test for salicylic acid in about four hours after ingestion of 1 gm. of sodium salicylate, and with greater intensity by the sixth hour. The interval was half an hour shorter when the drug had been given subcutaneously or intramuscularly. When the response is negative after the infectious process has been installed for some time, this testifies that the endothelium of the synovial membrane has been extensively destroyed, and this alone may call for prompt surgical intervention to arrest the evidently progressive lesion. The formula found best adapted for subcutaneous or intramuscular injection is a mixture of 1 gm. sodium salicylate; 0.01 gm. stovain; 0.04 gm. sodium chlorid and enough 25 per cent. glycerin-water to make 10 c.c. The vial containing this is heated to 100 C. (212 F.) for twenty minutes.

75. **Scoliosis.**—Serra and Valtancoli write from the Rizzoli Orthopedic Institute at Bologna to analyze the course and outcome of treatment in 483 cases of scoliosis classified according to the clinical and morphologic features of the cases. Over 82 per cent. of the patients were girls, but the severest forms of curvature of the spine were more prevalent in boys. The different varieties of curvature and their proportionate frequency at different ages are shown in various charts.

77. **Exposure of the Radial Nerve.**—Putti expatiates on the advantages of Gosset's technic for direct access to the radial nerve. The arm is placed on a table—an extension of the plane of the bed—the arm slightly abducted and rotated inward, the elbow bent at a right angle and the forearm close to the chest. The incision, about 15 cm. long, slants from above downward and inward, starting about an inch from the axilla and ending about an inch from the bend of the elbow. This incision parallels the muscle fibers below, and the two bellies of the triceps are readily worked apart. As they are drawn back, the radial nerve is left exposed the entire length of the upper arm, without altering the anatomic relations of the field of operation.

Gazzetta degli Ospedali e delle Cliniche, Milan

September 2, XXXVIII, No. 70, pp. 953-967

78 *Recurring Tetanus after War Wounds. G. Vernoni.—p. 955.

September 6, No. 71, pp. 969-976

79 *Present Status of Tuberculin Treatment in Prophylaxis of Tuberculosis. E. Bertarelli.—p. 969.

September 13, No. 73, pp. 993-1000

80 Roentgen Localization of Foreign Bodies. E. Pittarelli.—p. 994.

September 16, No. 74, pp. 1001-1016

81 Agglutination of Typhoid Bacilli in Puerperal Fever. A. Sofia.—p. 1001.

78. **Recurring Tetanus.**—In the four cases reported, the tetanus developed after a secondary operation two months or more after the primary wound and preventive injection of antiserum, or else after a course of exposures to sunlight, or without known inciting cause.

79. **Prophylactic Tuberculin Treatment.**—Bertarelli relates that he experimented with tuberculin on himself, and found that the deviation of complement test elicited a positive reaction in a few weeks after he had begun to give himself a weekly injection of minute amounts of old tuberculin. By the end of a year he had reached the dose of 1 c.c., and now, three years after the last injection the deviation of complement test is still strongly positive. Theoretically, a prophylactic course of tuberculin would seem justified in families exposed to special danger of infection, and he urges others with more opportunity to try it.

Policlinico, Rome

September 9, XXIV, No. 37, pp. 1121-1148

82 Diagnosis of Factitious Skin Diseases. R. Rivalta.—p. 1121.

83 Diagnosis of Factitious Lesions of the Ear. T. Mancioli.—p. 1127.

84 Physical Causes for Exemption from Military Service. G. Breccia.—p. 1130.

Riforma Medica, Naples

September 8, XXXIII, No. 36, pp. 869-892

85 *Rheumatic Purpura with Certain Features Suggesting Scurvy. U. Gabbi.—p. 869.

85. **Scorbutiform Purpura in the Troops on Active Service.**—Gabbi comments on the remarkable healthiness of the troops exposed to the cold of the firing line among the mountains. Although so many of the men come from the warm south of Italy and the islands, they seem to thrive among the snows of the mountains. But when there is any morbidity it is usually of a hemorrhagic type. He describes here in particular a rheumatic purpura, with features suggesting scurvy, which is either a new morbid entity or an old one with so many new characteristics that it assumes a new clinical physiognomy. The details of nineteen cases are given in full with some illustrations. The men had very rarely eaten canned meat. Mild and severe cases were encountered grouped together, but the whole trouble was benign and comparatively brief, free from complications or sequels, and except in a few cases there was no bowel trouble. There was always more or less fever and enlargement of the spleen, with slight albuminuria and sometimes hemorrhagic nephritis. No benefit followed the change to food which cures scurvy. Another peculiar feature of the cases was that they developed in spring and summer and the winter was practically free from cases. Sometimes a mild case was apparently subsiding when it flared up suddenly into a severe form with symptoms suggesting scurvy. Gum lesions were present even in certain mild cases and were absent in some of the gravest cases. A long question blank was sent to the various hospitals asking for the special features of this disease that had been noted. The data thus collected show that in about 60 per cent. of the cases there was gingivitis; periarticular lesions in 75 per cent., and actual joint lesions in a very few instances, and

epistaxis in 60 per cent. The disease lasted from ten to forty days, sometimes for two or three weeks. In a few cases the disease assumed a typhoidal form, but the disease never seemed to involve the heart. The bacteriologic findings were always negative, and the clinical course suggests an ultramicroscopic virus. The fact that there never were internal hemorrhages (in meninges, pericardium, pleura or lungs) confirms the assumption that exposure to cold is an important factor. The prevalence in the spring or summer suggests some insect host. In conclusion he urges the importance of detecting and isolating the first cases. There is always a prodromal period suggesting malaria, with lassitude and vague pains. There was a chill with the onset of the fever in over 75 per cent. of the cases.

Rivista Critica di Clinica Medica, Florence

September 8, XVIII, No. 36, pp. 349-356

86 Unheated Serum with the Wassermann Test. C. Quadrone and F. Dematheis.—p. 349.

September 15, No. 37, pp. 357-364

87 *Autogenous Vaccines in Treatment of War Wounds. G. Stradiotti and G. Ollino.—p. 357.

88 Some War Neuroses. G. Barbensi.—p. 360. Continuation.

87. **Autogenous Vaccines in Treatment of War Wounds.**—Stradiotti and Ollino prepared the vaccine with the various germs found in the wound, and made a point of applying it at once or at latest at the second dressing. One or more loops of the pus were transferred to bouillon and the vaccine was sterilized by addition of chloroform to the culture medium, agitating it at intervals for two or three hours. After this it was always found sterile. In their hundreds of applications of these vaccines they never had an abscess or serious general reaction; at most there was a transient redness at the point of injection. They began with 1 c.c. of the bouillon culture, increasing the amount by 1 c.c. at each injection, at intervals of from three to six days; the larger the dose the longer the interval. The maximal dose reached in any case was 7.5 c.c., and this was borne perfectly. It is better to make fresh vaccine from time to time, and not use any one too long. The principle is rational, the procedure harmless, and the general impression of the results most favorable. The outcome was better the earlier the vaccine could be given but a beneficial influence was apparent often in cases of advanced infection if the general symptoms were not the expression of septicemic generalization of the infectious process. Even in such cases the fever frequently declined after the injection and did not go up again until several days later, when it could be again brought down by repeating the injection. The vaccine therapy is not adapted for very grave cases of inveterate suppuration in knee or thigh, such extensive lesions not being easily stimulated to defensive reactions. They have been applying this vaccine therapy for about a year, and usually are able to make the injection within forty-eight hours of the wound, but the technic used makes no provision for anaerobes. They apply the autogenous vaccines also in treatment of furunculosis and other superficial suppurating processes, and report further complete success in a small epidemic of erysipelas which was arrested by prophylactic injection of a vaccine prepared from one of the sick, thus protecting the forty other inmates in the surgical ward. These preventive doses were 1, 2 and 3 c.c., at three or four day intervals.

Brazil Medico, Rio de Janeiro

September 1, XXXI, No. 35, pp. 297-304

89 *Hodgkin's Disease. (Adenomycose.) E. C. Dias.—p. 297. Commenced in No. 34, p. 287.

90 *Acute Pyelitis in Children. C. de Rezende.—p. 298. Commenced in No. 34, p. 289.

September 8, No. 36, pp. 305-312

91 The Oxynema Helminths. A. L. de B. Barreto.—p. 305.

92 Flagellated Parasites in Vertebrates. IV, O. da Fonseca.—p. 305.

93 Operative Treatment in Little's Disease. A. F. de Magalhães.—p. 306. To be continued.

89. **Hodgkin's Disease.**—Dias announces that his research has apparently demonstrated that the causal agent of Hodgkin's disease is a remarkably polymorphous fungus. It locates in lymph glands and can be cultivated from them, and is pathogenic for animals. His communication was presented to the American Society of Tropical Medicine although this disease is by no means confined to the tropics, but it happens to be particularly prevalent in the state of Minas Geraes in Brazil, and special studies were made of it in the local branch there of the Instituto Oswaldo Cruz with which he is connected. This research demonstrated that the disease was the classical Hodgkin's disease which was doubted at first, the possibility of a new morbid entity having been considered and the name "adenomycosis" suggested for it. Cultivation on Sabouraud's saccharosed gelose succeeded in about 50 per cent. of the inoculations, the growth with one type of the germ resembling that of cultures from actinomycosis. The other principal type is more bacilliform in aspect and cultures. These differences are more marked at first than later, in time all the cultures resembling each other. The rat, guinea-pig, rabbit and monkeys are susceptible to the germ, and all die sooner or later when inoculated in the peritoneum, although the experimental disease may last for a month or more. Until it is possible to classify the germ correctly, he has given it the provisional name of the *Adenomyces cruzi*. He thinks that leukemia may yet be proved to be a mycosis.

90. **Acute Pyelitis in Children.**—De Rezende describes a case to illustrate a common mode of onset of acute pyelitis in children in Brazil, recurring abrupt attacks of high fever preceded by a chill and followed by sweating, suggesting acute malaria or the fever of septicemia or suppuration. The urine of the nine months' babe contained extraordinarily large amounts of albumin, clearing up the diagnosis at once. In some cases the fever is continuous or subcontinuous as in typhoid, or it may be frankly remittent, or there may be slight chronic fever. In short, whatever the type of fever, in an infant or child, and whatever its duration, examination of the urine should be a routine measure to exclude pyelitis as almost the first step. He has found the colon bacillus usually responsible, and notes that pyelitis attacks girls more than boys. These facts suggest prophylactic measures. In treatment, the aim should be to render the urine alkaline and keep this up until all symptoms have disappeared. His experience with pyelitis in children has fully confirmed Thompson and Hutchison's assertions in regard to the almost specific action of large doses of potassium citrate. This does not act on the bacilli, however, and after cessation of the alkali treatment de Rezende suggests that it might be well to follow with hexamethylenamin. The two should never be given together. For adults, he gives a solution of acid sodium phosphate, 10 gm. in 300 gm. cinnamon water. The dose is a tablespoonful in half a glass of sweetened water every four hours. The hexamethylenamin is given two hours later.

Revista de Medicina y Cirugia de la Havana

September, XXII, No. 17, pp. 449-476

94 Present Status of Treatment of Chronic Urethritis. L. F. Hirzel and V. P. Castello.—p. 449.

Semana Medica, Buenos Aires

July 26, XXIV, No. 30, pp. 85-116

95 *Treatment of Rupture of the Uterus during Delivery. E. Mazzini.—p. 85.

96 Arsenic in Treatment of Chorea. P. Aguilar and L. K. Wimmer.—p. 92.

97 *National Prophylaxis of Tuberculosis. E. R. Coni.—p. 94.

98 *Treatment of Anthrax with Normal Beef Serum. E. F. Solari.—p. 98.

99 Bill before Congress for a National Asistencia Publica. B. T. Solari.—p. 101.

100 The Psychology of Scientific Education. J. Santos Fernandez.—p. 111.

95. **Treatment of Rupture of the Uterus During Delivery.**—Mazzini reports five cases of rupture during delivery which he treated by drawing down with his hand the upper lip of the rupture inside and well past the lower lip, then keeping up the traction on the upper lip by substituting long forceps for the hand with which he was holding it. The lower portion of the uterus was then packed with gauze around the forceps, distending it well, and then the vagina. He uses two forceps or more if needed to draw the upper lip of the rupture well down all around, and leaves a drain tube

The tamponing all around them prevents any injury of the walls. A retention catheter is then introduced into the bladder, and the projecting handles of the forceps are wrapped in gauze. He removes the tampon after seventy-two hours and also the drain tube and forceps, but avoids any exploratory measures; merely giving an antiseptic vaginal douche under weak pressure. The treatment after this is as for any parturient. This technic when introduced by Boero was supposed to be applicable only to spontaneous rupture, but Mazzini's five cases testify to its suitability for traumatic rupture whenever the cervix is open enough for the hand to be introduced to grasp the upper lip of the tear. In his experience the promptly and permanently favorable results in 80 per cent. of the cases surpass even Boero's 75 per cent. of cures in his twenty cases since he published this technic in 1910. In Mazzini's first case the uterus had ruptured at two points, and he sutured the longitudinal tear and treated the transverse tear as described above. The woman recovered without sequels, and all seemed to be normal a year later. In the one case in which fatal peritonitis developed, this was the ninth pregnancy. Six had terminated normally and this one seemed to be proceeding regularly at first and until the rupture. The placenta had to be removed by hand, as it had caught in the rupture opening. The front of the entire segment had been torn off and, notwithstanding the Boero procedure, peritonitis developed and proved fatal the sixth day. The fetus died about the time of the rupture in each case. The rupture occurred in the maternity in all but the first case.

97. **Tuberculosis in Argentina.**—Coni mentions that Argentina was the first country in Latin-America to include pulmonary tuberculosis among the diseases requiring compulsory notification. He reviews the history of tuberculosis in Argentina and of what has been done to arrest its spread. Fully 85.6 per cent. of the general mortality in 1913 throughout Argentina was due to tuberculosis. He sustains those who plead for preventoriums, farm colonies and similar inexpensive and accessible institutions for caring for the tuberculous instead of, at first, expending much money on mountain and seashore sanatoriums. The Buenos Aires hospitals turn away every day, it is said, up to twenty or thirty applicants with pulmonary tuberculosis for whom no beds can be found.

98. **Normal Beef Serum in Treatment of Anthrax.**—Solari reports that his trials of normal beef serum in treatment of anthrax have confirmed in every respect the statements of Kraus and Penna as to its efficacy. The results, he says, could not have been more satisfactory. It is evident that normal beef serum, heated twice for half an hour to 56 C., does not induce any injurious reaction when injected into man. He gave it subcutaneously in doses of from 10 to 30 c.c. in the twenty-four hours as a rule, sometimes giving more, up to a maximum of 60 c.c. The benefit was as prompt and as marked as with the prepared immune serum he had been previously using. The case history and chart from each of his six cases are reproduced.

Siglo Medico, Madrid

September 1, LXIV, No. 3325, pp. 645-664

101 Operative Treatment of Retroversion of the Uterus. V. Aza.—p. 646.
102 An Early and Rare Superficial Syphilitic Ulcerative Lesion on the Genital Organs. Sicilia.—p. 655.

September 8, No. 3326, pp. 665-684

103 Bilateral Genu Valgum. A. Morales.—p. 666.
104 Hydrochloric Acid during Courses of Alkaline Waters. M. Fernandez.—p. 667.
105 *Reeducation of the Hearing. C. Compaired.—p. 668.
106 Localization of Leishman Bodies in Liver. N. G. Barrio.—p. 670.
107 *Acute Nephritis and Renal Organotherapy. B. Gil y Ortega.—p. 671. Commenced in No. 3325, p. 650.

105. **Reeducation of the Hearing.**—Compaired expatiates on the advantages of the Zund-Burguet or similar apparatus for aiding in saving the hearing and improving it. He asserts that the improvement realized with this apparatus, which he has been using for six years, surpasses all that can be attained by other means, especially in the cases of deafness from otosclerosis and adhesive otitis. He seeks out the tones, etc., for which the hearing is most defective, and practices these predominantly. The sittings are for ten to twenty minutes, twice a day, treating each ear separately. Local lesions and constitutional causes must be sought and corrected so far as possible, and it is useless to apply this treatment to the very old or the very young, the congenitally deaf, the stupid and those unwilling or incapable of concentrating their attention on the course of treatment. He insists also on the patient's living a sociable life, listening and talking, not spending his time reading or in solitude but keeping up exercises of the hearing, listening to music and to reading aloud. If no benefit has been realized in the first thirty sittings, given twice daily, for five or ten minutes, there is no use in keeping them up longer. With very sensitive persons it may be better to have only one sitting a day or at longer intervals. The treatment has never done harm in any instance; if it does not improve, at least it never aggravates the condition.

107. **Acute Nephritis and Renal Organotherapy.**—A robust young man in the second or third week of an attack of influenza suddenly developed pulmonary edema, and palpation revealed that the right kidney and ureter were extremely tender and the left slightly so. The symptoms of acute nephritis became more and more threatening, with a tendency to coma by the end of the week. He was then given a subcutaneous injection of 10 c.c of serum from the renal vein of the goat, and when hope had almost been lost, seventeen hours after the injection, copious diuresis set in and the alarming symptoms subsided. The injection was repeated the next day at the same hour and the organotherapy continued after this with kidney extract. This was suspended after three days on account of the expense, and the next day there was another attack of pulmonary edema but not so severe as the first. As recovery progressed there were occasional attacks of dyspnea even after the kidney functioning seemed to have been restored to normal. Gil ascribed the dyspnea to toxic weakness of the heart, and this assumption was confirmed by the prompt efficacy of caffein citrate, each time, given by the mouth or subcutaneously.

Grèce Médicale, Athens

XIX, No. 7-8, pp. 13-16. French supplement of Iatriki Proodos

108 *Masked Dysentery. J. Cecikas.—p. 13. In English.

Nos. 9-14, pp. 17-28

109 Primary Malaria in Macedonia. P. Abrami.—p. 17.
110 *Serotherapy of Malaria. Sotiriades.—p. 27.

108. **Masked Dysentery.**—Cecikas' experience has been that agglutination is not distinct enough as a rule to distinguish between the different species of bacilli responsible for bacillary dysentery. Biologic diagnosis, however, permits correct serotherapy, and in two cases reported in detail this proved successful after years of futile other treatments. One man of 30 had a history of tropical enteritis seven years before, treated with emetin later and various courses at spas, but the enteritis was liable to return every summer. There were also attacks of tachycardia and joint trouble, and the lower part of the left abdomen was tender. No amebas and no colonies of colon bacilli developed on the Drigalski medium but nonmotile bacilli proliferated that agglutinated the Kruse bacillus, and under Kruse-Shiga serum the chronic tendency to enteritis was permanently cured. By the eighteenth day no suspicious colonies developed while the colon bacillus flourished abundantly. This primary absence of the colon bacillus he regards as significant as also its reappearance as the man regained complete health. Cecikas remarks that with all the varying diagnoses and treatment during the seven years in this case, "the patient had stuck to enteritic diet, used aperient salts and took castor oil nearly every week, this regular life and diet explaining the complete *restitutio ad integrum* which undoubtedly followed the weakening of the dysenteric bacilli by the serotherapy and their final disappearance." This assumption of the superficial nature of the alterations caused in the bowel mucosa by the prolonged presence of the germs is sustained by another case of undiagnosed bacillary dysentery with dyspnea, palpitations, and polyuria, especially at night. The primary enteritis

dated from twenty-nine years before. Under the serotherapy complete health was speedily regained. In another case the chronic dysentery was regarded as enteritis mucosa and treated without benefit, but prompt recovery followed the serum treatment. The fourth patient was a woman of 28; the dysentery had commenced insidiously three years before and the symptoms had been ascribed at one time to metritis and a gynecologic operation had been done without relief. The rectal mucosa had ulcerated.

In young children and babies the bacillary dysentery may develop in an acute form. In one out of several such cases in his practice, the infant developed menacing "enteritis" two weeks after the father had been under treatment for frank bacillary dysentery. Without waiting for bacteriologic confirmation, Cecikas gave the collapsed infant the same serotherapy, and the child soon recovered. Cultivation of the stool taken at the first visit showed the Kruse Shiga bacillus agglutinating at 1: 500. There are no distinguishing features in the early stage of acute bacillary dysentery in children, but the case as a whole may suggest by the second or third day to use the serum "which finally can do no harm. It is 'a golden rule to proceed in intestinal troubles at the first visit to bacteriologic examination of vomit and feces."

110. **Serotherapy of Malaria.**—Sotiriades reports that he injected serum from one patient with malaria into a second patient who had just contracted malaria. There was no further fever for four days then came a much milder attack and the plasmodium was found in the blood as at the first attack. A second subcutaneous injection of 10 c.c. of the serum from the first patient was made and the next day, during the interval a third injection was made. The second patient had no further fever during the twelve days he was under observation. The donor had the parasites still in the blood at the time but the spleen was not enlarged and he had had no attacks of chill or fever for some months.

Russkiy Vrach, Petrograd

XVI, No. 16-17, pp. 361-384

111 *Palliative Operation for Rectal Cancer. S. P. Fedoroff.—p. 361.
112 *Differential Diagnosis of Heart Disease. S. G. Mintz.—p. 361.
113 The Civilization and Medicine of Ancient Assyria and Babylonia. P. V. Modestoff.—p. 367. Continuation.
114 The Ferments in Typhoid. A. S. Solovtzoff.—p. 371. Continuation.
115 Vaccination against Typhoid. P. N. Triudin.—p. 373. Conclusion. A. O. Fraifeld.—p. 377.

111. **Palliative Treatment of Inoperable Rectal Cancer.**—Fedoroff comments on the difficulty of keeping fecal matters and fluids out of the lower segment of the rectum when an artificial anus has been made above. With the technic he describes, however, this can surely be accomplished, and the lower segment left in peace as completely as if it had been cut across, while the procedure is simple and harmless. He makes a slanting incision in the abdominal wall, about 10 or 12 cm. long, in the left iliac region, from 1½ to 2 finger-breadths from the outer edge of the rectus muscle, and draws out through it the adjacent portion of the sigmoid flexure. Then he loosens up and cuts a strip from the aponeurosis of the external oblique muscle the whole length of the inner margin of the incision. This strip of aponeurosis is left connected with its aponeurosis bed only at the lower angle of the incision. Then this strip is passed through a button hole in the mesentery of the bowel, close to the latter. The strip is then passed around the bowel two or three times and drawn tight. The free end of the strip of aponeurosis is then sutured firmly to the opposite edge of the incision, and the bowel above is sutured to the lips of the incision. Then, according to circumstances, from two to five days later, an opening is made into the bowel above the ligature. By this means the lower portion of the rectum is shut off so that neither fluid nor solid matters can work their way into it, and the patient is spared all irritation and pain from this source.

112. **Differential Diagnosis of Heart Disease.**—Mintz' conclusions are based on examination of hundreds of men suspected of heart disease. He remarks in the first place that men with stomach trouble are liable to ascribe their disturbances to the chest or heart rather than to the stomach. In only 20 per cent. of 135 with these complaints were the stomach findings normal; in 33 per cent. there was hyperacidity, in 14 per cent. anacidity, and motor insufficiency in 18 per cent. In the majority of the men free from organic heart disease, the nervous excitement from the examination increased the pulse rate and also the blood pressure, while in those with fully compensated heart defects and in many with acute infectious disease of the heart, the pulse did not grow faster, and the blood pressure persisted normal or dropped below normal. The heart seems to have to work harder when the person reclines than when he stands. This is evidenced by the louder systolic murmur, the passage of the prediastolic murmur into the systolic, and the accentuation of the second sound of the pulmonary artery when a patient with mitral defect reclines. The accentuation of the second sound manifest in the reclining position may be one of the very earliest signs of true heart trouble. The percussion findings as to the proportions of the heart are often normal even with a valvular defect.

In consequence of the variability of the left nipple line, we must be extremely cautious in affirming an increase in the size of the heart. The distance between the left nipple and the median line ranged from 8 to 12 cm. in his cases. The distance from the left nipple to the tip of the apex may reach 3.5 cm. No parallelism between the size of the heart and these differences in the location of the left nipple could be detected as a rule. In the mild and beginning cases of mitral defect, the systolic murmur is heard exclusively over the pulmonary artery. A loud systolic murmur keeping strictly to the pulmonary artery is of accidental origin, and may be encountered with tachycardia. With tachycardia, the first sound a sharp clapping, the blood pressure is abnormally high. When the first sound is the normal tone, the blood pressure is normal in the majority of cases; with embryocardia, it is below normal. A brief systolic murmur is often noted with tachycardia. The systolic murmur of organic origin keeps much fainter, and it may disappear altogether in the reclining position. With palpitation of the heart, a murmur is sometimes heard at the apex for which a reflux jet of blood from the ventricle into the auricle may be responsible. The question as to the reserve energy of the well hypertrophied heart and the power of adaptation to increased demands, is still open to discussion. According to his personal observation, the heart even with a well compensated defect responds differently to excitation (pulse rate, blood pressure), from the sound heart. If we consider the accentuation of the second pulmonary sound with overburdening of the heart (the *Belastungsprobe* of the Germans), an index of its functional capacity, then we must arrive at the conclusion that the reserve force of the heart, even with perfect compensation, is limited and small. Accepting the above, it follows as a matter of course that men with even slight heart defects cannot be utilized for military service.

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116 *Joint Lesions with Syringomyelia. V. Askgaard.—p. 837.
117 Synovial Cyst—Arthroma—in a Muscle. A. Sennels.—p. 846.

116. **Joint Lesions with Syringomyelia.**—Askgaard remarks that joint lesions are the rule in about 25 per cent. of all cases of syringomyelia, and describes with illustrations an exceptionally severe case in a man of 39. The wrists and hands were the seat of the destructive and deforming process but, as usual, there was little tendency to ankylosis. As spontaneous remissions sometimes occur, treatment should be conservative unless the disturbances demand resection. When this is the case, as recurrence is liable, amputation is better than resection. Ample facilities for drainage should be provided, but even large accumulations are sometimes spontaneously absorbed. This occurred in one hand in the case reported, and the other is being treated conservatively. The wrist is worn in a sling. The fingers can still be used actively but those on the other hand were left contracted. Amputation has been considered, but the fear of recurrence in the stump weighs down the scale against it.